NWS: EHB-6, Software Note 21
DoD: TO 31P1-4-108-605
FAA: EEM Modification Handbook 6345.1 CHG 36, Chap 33

RADAR PRODUCT GENERATOR (RPG) GROUP SOFTWARE Build 3.0

DOPPLER METEOROLOGICAL RADAR WSR-88D

PUBLISHED UNDER AUTHORITY OF THE SECRETARIES OF
COMMERCE, THE AIR FORCE, THE NAVY, AND TRANSPORTATION

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1. SUBJECT

Radar Product Generator (RPG) Group Software Build 3.0.

2. PURPOSE

The purpose of this modification is to provide instructions and software for loading the new RPG Build 3.0 software. This document is issued as a result of a Radar Operations Center (ROC) Engineering Change Proposal (ECP) 0174, RPG Software Build 3.0.

Specifically, RPG Software Build 3.0 provides the following enhancements:

- Change to the Solaris 8 Operating System (from the current Solaris 7 Sun Operating System).
- Implementation of a Data Quality Assurance Algorithm which will provide input to the High Resolution Vertically Integrated Liquid (HRVIL) product.
- Corrected the scaling resolution of the velocity and spectrum width data in the Radar Echo Classifier Algorithm.
- The PPS Rate and Accumulation Algorithm no longer yields small amounts of artificial precipitation in the hourly-based products (OHP, THP, and USP).
- Improved Error Reporting of Jaz and hard disk drive problems to the operator, new System Status messages, changes to General Status messages, and Request Response Messages to better report RPG State and Alarms.
- New User Selectable Layer Composite Reflectivity (ULR) product.
- New Digital Storm Total Precipitation (DSP) product.
- Velocity Azimuth Display (VAD) Wind Profile modification for Hodograph product.

Upon completion of the software load, the following windows may be accessed to show some of the changes incorporated into the new build:

- RPG Control/Status window shows the software build number (e.g., B3.0) in the lower right corner of the screen. The software version is also distributed to all users in the General Status Message (GSM).
- Change to algorithms. Select RPG-Products, then select Algorithms. Select the pull-down menu for the algorithms. Select the Hydromet Adjustment algorithm. The Spares have been removed.

<u>The actual downtime for the RPG will be approximately 2 hours when no data will be available while Build 3.0 is being loaded</u>.

For FAA Redundant sites, RPG Software Build 3.0 should first be loaded on one channel and the Distant MSCF. The other channel can be operating on the old software build during this time. However, the channel on the old build must be shut down before Build 3.0 is brought up on the first channel to avoid cross-talk between the different software builds.

For additional information concerning this document, contact the WSR-88D Hotline, Norman, OK; phone number: (800) 643-3363 or (405) 366-2980 or by e-mail at NEXRAD.Hotline@noaa.gov. An electronic copy of this document can be found at the following Internet address:
www.roc.noaa.gov/ssb/sysdoc/techman/tmlinks.asp

3. SITES AFFECTED

See ATTACHMENT 7 for site effectivity.

4. ESTIMATED COMPLETION DATE

This modification must be completed and reported no later than 60 days after receipt of this document.

5. EQUIPMENT AFFECTED

Radar Product Generator Group, including:
Radar Product Generator
Master System Control Function Workstation
Base Data Distribution Server
Router

6. SPARES AFFECTED

Not applicable.

7. MODIFICATION ACCOMPLISHED BY

Site electronic systems analysts and/or electronics technicians will accomplish this task. One technician is required to perform these procedures.

8. MATERIALS REQUIRED

The following kit will be required to install RPG Software Build 3.0. NWS sites that have a DoD MSCF will receive a separate kit for the DoD MSCF.

Nomenclature	Qty
CD-ROM, RPG LOAD MEDIA Version 3.0 (these are two identical CD-ROMs)	2
CD-ROM, EPSS Files (Electronic Performance Support System)	1
CD-ROM, RPG Blockage Files	1
3.5 inch diskette, RPG ADAPTATION DATA or MSCF ADAPTATION DATA	1
Release Notes, RPG Software Build 3.0	1
* Formatted 3.5 inch diskettes (MSCF: 3, RPG: 1)	4
* Sheets of paper for printer	50 sheets

* Site will provide.

9. SOURCE OF MATERIALS

The items in paragraph 8 will be shipped to each site by the National Weather Service (NWS) ROC. Items annotated by an asterisk will be provided by the site.

10. SPECIAL TOOLS AND TEST EQUIPMENT REQUIRED

Not applicable.

11. TIME AND PERSONNEL REQUIRED

Work Phases	Work-hours
Unpacking	0.0
Coordination/Backup	2.0
Installation	5.0
Assembly	0.0
Operational Check	0.5
Total Work-hours	7.5

12. DOCUMENTS AFFECTED

a. Maintenance Instructions, Radar Product Generation (RPG), dated 1 August 2001
NWS: EHB 6-525, Change 3
DoD: AFTO 31P1-4-108-452-1, Change 3
FAA: TI 6345.1 V50, Change 3

b. Operations Instructions, Radar Product Generation (RPG), dated 1 August 2001
NWS: EHB 6-526, Change 3
DoD: AFTO 31P1-4-108-451-1, Change 3
FAA: TI 6345.1 V50, Change 3

c. Guidance on Adaptable Parameters, dated 31 March 2003
NWS: WSR-88D Handbook Volume 4, ORPG, Revision 1

13. VERIFICATION STATEMENT

This modification was successfully installed at Dodge City, KS; Altus AFB, OK; Tulsa, OK; Corpus Christi, TX; Yuma, AZ; and King Salmon, AK.

14. DISPOSITION OF REMOVED AND REPLACED PARTS/MATERIALS

Not applicable.

15. PROCEDURES

Perform the following procedures that apply for your site. NWS sites may also need to perform the procedures in ATTACHMENT 1, ATTACHMENT 2, ATTACHMENT 5, and ATTACHMENT 6 for each DoD or FAA related MSCF. It is expected that the RPG, router, the corresponding MSCF, and the corresponding BDDS (if applicable) will be loaded on the same date. If the MSCF and/or BDDS processors are located remotely from the RPG, then it is imperative that a load date be agreed upon for all three components by the affected maintainers.

ATTACHMENT 1 may be completed earlier (up to several days) before the other attachments are scheduled as long as no changes are made to any of the site adaptable parameters between the printing of the windows and the loading of the software.

The NEXRAD site Unit Radar Committee (URC) chairman must coordinate downtime with all dedicated users in accordance with Interagency NEXRAD Operation Memorandum of Agreement (MOA).

- ATTACHMENT 1, MSCF Printing Site Adaptable Parameters
- ATTACHMENT 2, MSCF Software Build 3.0 Load Instructions

- ATTACHMENT 3, RPG Software Build 3.0 Load Instructions
- ATTACHMENT 4, Router Software Build 3.0 Load Instructions
- ATTACHMENT 5, BDDS Software Build 3.0 Load Instructions
- ATTACHMENT 6, MSCF Restoration of Adaptable Parameters, Backups, and System Checks

16. FAA DISTRIBUTION

This directive is distributed to selected offices and services within Washington headquarters, the William J. Hughes Technical Center, the Mike Monroney Aeronautical Center, regional Airway Facilities divisions, and Airway Facilities field offices having the following facilities/equipment: NXRAD.

17. CHANGES TO TABLE OF CONTENTS (FAA)

This chapter will be included in the next revision to the table of contents for FAA Order 6345.1, Electronic Equipment Modification Handbook - Next Generation Weather Radar (NEXRAD).

To obtain additional copies of this publication, contact Printing and Distribution Team, AMI-700B, at (405) 954-3771.

18. RECOMMENDATIONS FOR CHANGES (FAA)

Forward any recommendations for changes to this directive through normal channels to the National Airway Systems Engineering Division, AOS-200, Operational Support.

19. REPORTING INSTRUCTIONS

a. NWS

Report the completed modification using the Engineering Management Reporting System (EMRS) according to the instructions in NWS Instruction 30-2104, Maintenance Documentation, Part 4 and Appendix E. Include the following information on the EMRS report:

(1) An Equipment Code of MSCF in Block 7.

(2) The appropriate serial number in Block 8.

(3) A Mod No. of S21 in Block 17a.

A sample EMRS report is provided as ATTACHMENT 9.

b. DoD

Update the AFTO Form 95 to show TCTO compliance. Report TCTO compliance in accordance with TO 00-20-2, Table 3-10, Rule 9.

c. FAA

Enter this directive number, date, and chapter number on the appropriate FAA Form 6032-1, Airway Facilities Modification Record.

Use the Maintenance Management System (MMS) application Log Equipment Modification (LEM) function to report the completion of this modification. Verify N is in the REP COD field to ensure the log entry will be upward reportable to the national data base for access by AOS. If not found in the LEM database, this change should be entered into the LEM fields as follows:

(1) Order No.: 6345.1

(2) Chapter: 36

(3) Change: 33

d. DoD and FAA

Complete ATTACHMENT 8 and return the information to the ROC by one of the methods below:

(1) Mail Address:	Program Branch, Configuration Management Team WSR-88D Radar Operations Center 3200 Marshall Ave., Suite 101 Norman, Oklahoma 73072-8028
(2) Fax Number:	(405) 366-6553 ATTN: Configuration Management Team
(3) E-mail Address:	NEXRAD.CM.comments@noaa.gov
(4) Web Version:	http://www.roc.noaa.gov/ssb/logistics/completion.asp

ATTACHMENT 1

MSCF PRINTING SITE ADAPTABLE PARAMETERS

Material Required:

Fifty (50) sheets of paper for the printer.

Initial Conditions:

A printer must be connected to the MSCF.

Build 2.0 must be loaded on the MSCF and the RPG.

NOTES

This attachment lists each window to be captured and printed, describes how to access each window and provides instructions on how to use the Snapshot program.

This attachment may be completed earlier (up to several days) before the other attachments are scheduled as long as no changes are made to any of the site adaptable parameters between the printing of the windows and the loading of the software.

The MSCF is the operator position for the WSR-88D radar. It is assumed that this operator position is responsible for control and changes to adaptable parameters for the RPG. There is not a merge forward capability for RPG adaptation data at this time. The merge forward capability is being worked in a future software build. Hence, it is imperative the site print all site-specific meteorological adaptable parameters under the Unit Radar Committee (URC) and Agency control before Build 3.0 is loaded. The following list of Build 2.0 GUI windows is provided on which parameter windows are under URC and Agency control.

All windows on this list must be printed to ensure there is a hardcopy record of site-specific parameters that must be carried forward.

The initial Build 3.0 URC password will be reset to its RPG Build 2.0 default value. If you do not know the RPG Build 2.0 default value, call the WSR-88D Hotline at (800) 643-3363.

For FAA sites: Only one channel has to be done. The RPG automatically updates any mismatches with the other channel.

This attachment should take approximately 2 hours to complete, but will not require the RPG to be down (i.e. radar may remain operational.) At a distant MSCF, it may take slightly longer.

ATTACHMENT 1 (Continued)

MSCF PRINTING SITE ADAPTABLE PARAMETERS

1. Print the following Adaptable Parameter windows that have the URC/Agency level of control. Use the Snapshot program described in steps 5 through 15 to print the windows. The majority of adaptable parameter windows are accessed from the RPG Control/Status window (RPG HCI). If prints have been made in recent months, they can be used if the unit selected values are verified as accurate.

NOTE

When a window is open, click on **Padlock**, click on **URC**, and the site adaptable parameters will be highlighted in white. These will be the only values the sites will have to check.

a. Windows accessed via the `RPG Products` window

- Click on the **RPG HCI** button from the `Master System Control Functions (MSCF)` window.
- In the `RPG Control/Status` window, click on **Products** within the RPG area. A popup window titled `RPG Products` will appear. This popup window has buttons for Alert/Threshold, Selectable Parameters, and Algorithms.
- Click on the **Alert/Threshold** button to access and print each window below:

  Alert Threshold Editor - Grid
  Alert Threshold Editor - Volume
  Alert Threshold Editor - Forecast

- Click on the **Selectable Parameters** button to access and print each window below:

  Edit Selectable Product Parameters - Contour Product
  Edit Selectable Product Parameters - OHP/THP Data Levels
  Edit Selectable Product Parameters - STP Data Levels
  Edit Selectable Product Parameters - Cell Product
  Edit Selectable Product Parameters - VAD and RCM Heights
  Edit Selectable Product Parameters - Layer Product
  Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/0.97 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Precip 16/1.94 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/0.97 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Precip 8/1.94 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/0.97 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 16/1.94 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/0.97 Table
  Edit Selectable Product Parameters - Velocity Data Levels for Clear Air 8/1.94 Table

- Click on the **Algorithms** button to access and print each window below:

  Algorithms - Combined Shear
  Algorithms - Hail Detection (2 Screens)
  Algorithms - Hydromet Adjustment

Algorithms - Hydromet Preprocessing
Algorithms - Hydromet Rate
Algorithms - Mesocyclone
Algorithms - Storm Cell Components (2 screens)
Algorithms - Storm Cell Tracking
Algorithms - Tornado Detection (2 screens)
Algorithms - VAD

b. `Modify Precipitation Detection Parameters` window

- From the RPG HCI, click on the precipitation category to the right of `Precip Cat:` The `Precipitation Status` window will appear in a few seconds.
- Click on the **Modify Parameters** button of the `Precipitation Status` window and the `Modify Precipitation Detection Parameters` window appears. Print the window.

c. `Clutter Regions` window (options for each operator defined region)

- From the RPG HCI, click the **Clutter Regions** button on the right hand Applications column.
- Click on **File** to display the number of clutter files.
- Double click on the first site file (not DEFAULT) to display it.
- Use the Snapshot program to print all of the regions of that file.
- Use the scroll bar on the lower right hand edge to display the values of each region.
- Repeat for the next clutter file until all are printed.

2. Print the following operational status windows to show the "overall health" of the system and user connections before the software load.

a. Windows accessed by the `RPG Control/Status` window

`RPG Control/Status` Window

The `RPG Control/Status` window is the RPG HCI. Print the window.

`Product Distribution Comm Status` (PDCS) window (2 Screens)

From the RPG HCI, click on **Comms** within the Users area. Print both windows of the Product Distribution Lines: 1 - 24 and 25 - 40.

`RPG Status` window

From the RPG HCI, click on **Status** within the RPG area. The RPG Status window will appear. To remove the regular status messages and identify only the alarms and

errors, click on **Status** within the Message Filters area to deselect. If there are system alarms or errors, they will appear in the status window. Print this window.

b. Master System Control Functions Status (MSCF) window

- Open the MSCF window.
- Click on **Comms Status** button. This window may need to be resized according to the device selected.
- Within the Comms Status window, individually select each of the following devices and print the window for each device:

  CISCO Switch

  CISCO Router

  Router Card Status

Base Data Distribution Server (BDDS) window

Click on the **BDDS HCI** button. Print the BDDS clients status. The IP addresses must be identical. The user IDs may vary.

Power Control window

Click on the **Power Control** button. Print the Power Control window showing power status.

When printing is completed, proceed to ATTACHMENT 2.

3. Perform the following Snapshot instructions from step 5 to step 15:

Snapshot is an application that runs on each of the Sun processors used with any RPG. It is a graphics capture program that will, in effect, take a picture of any window, region, or screen that is in view on any workspace of the processor. The images can then be edited, printed or saved to disk. Snapshot can be used to make visual records of graphical images such as screen anomalies and adaptation data.

The following procedures assumes that when directed to “click” on an item, it is referring to the left mouse button, unless directed differently. The phrase “button 1” also refers to the left mouse button.

NOTES

The following steps are intended to be the basic procedures for using Snapshot to capture graphic images. The Snapshot application has several additional features not covered here that

can be employed to manipulate images of captured graphics and to produce various print effects.

A printer is only configured at the MSCF. The RPG and BDDS do not have a printer installed. It will be necessary to save the images at the RPG and BDDS to a floppy and transfer them to a machine that has a printer associated to it.

4. If not already visible, ensure the window to be captured is visible on one of the CDE desktops. It is recommend that all other windows be minimized to reduce screen clutter while capturing each graphic image for print.

5. To start the Snapshot application, right click on an open area of the same desktop the image is located on. The `Workspace Menu` will drop down.

NOTE

Image Viewer can also be started directly from the command line of a `Terminal` window by entering: **sdtimage -snapshot&**

6. Click on **Applications**. The `Applications` menu will drop down.

7. Click on **Snapshot**. The two drop down menus will close and two new windows will open. The window titles are `Image Viewer - Snapshot` and `Image Viewer - (None)` (as shown in Figure 1). Once the selected window image is saved, `None` will be replaced by the filename.

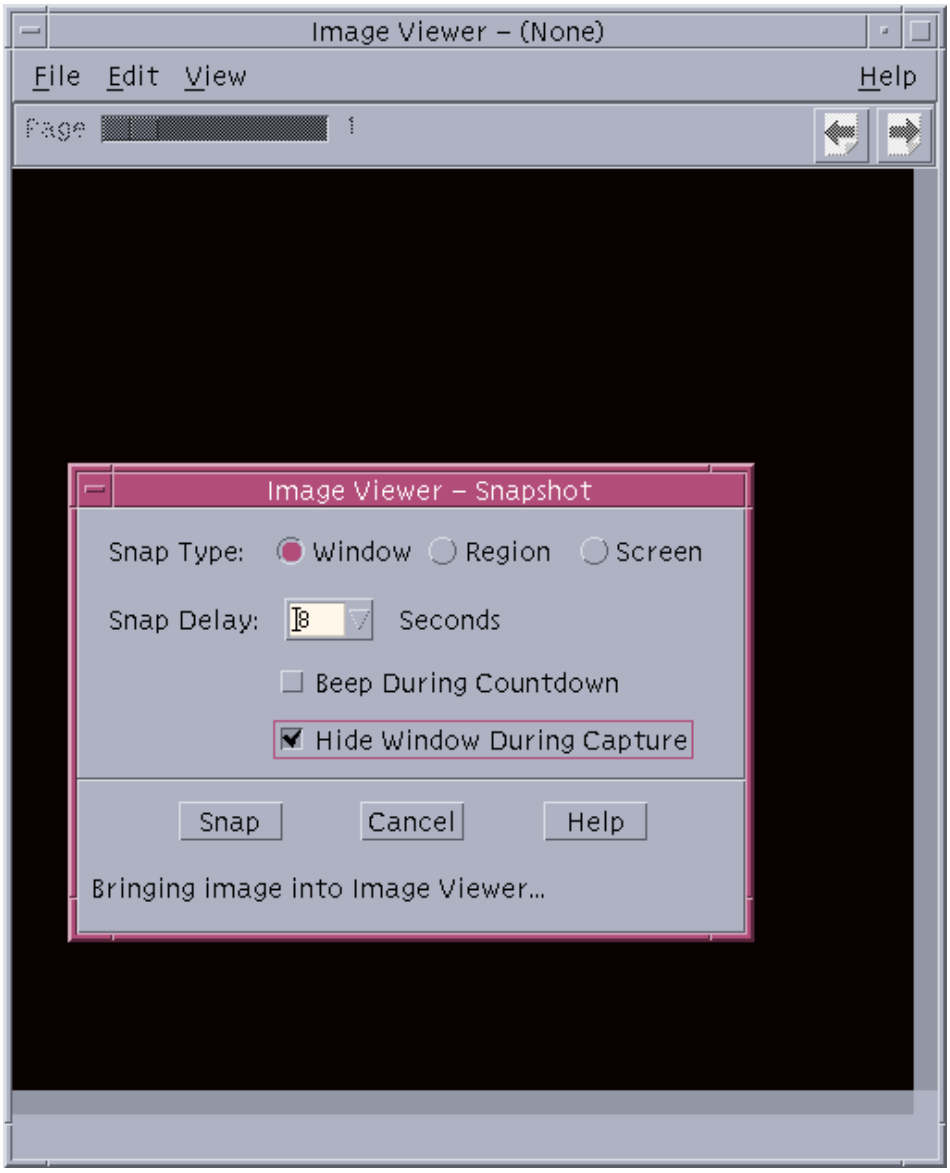


Figure 1 Image Viewer - Snapshot and blank Image Viewer before snapping any image.

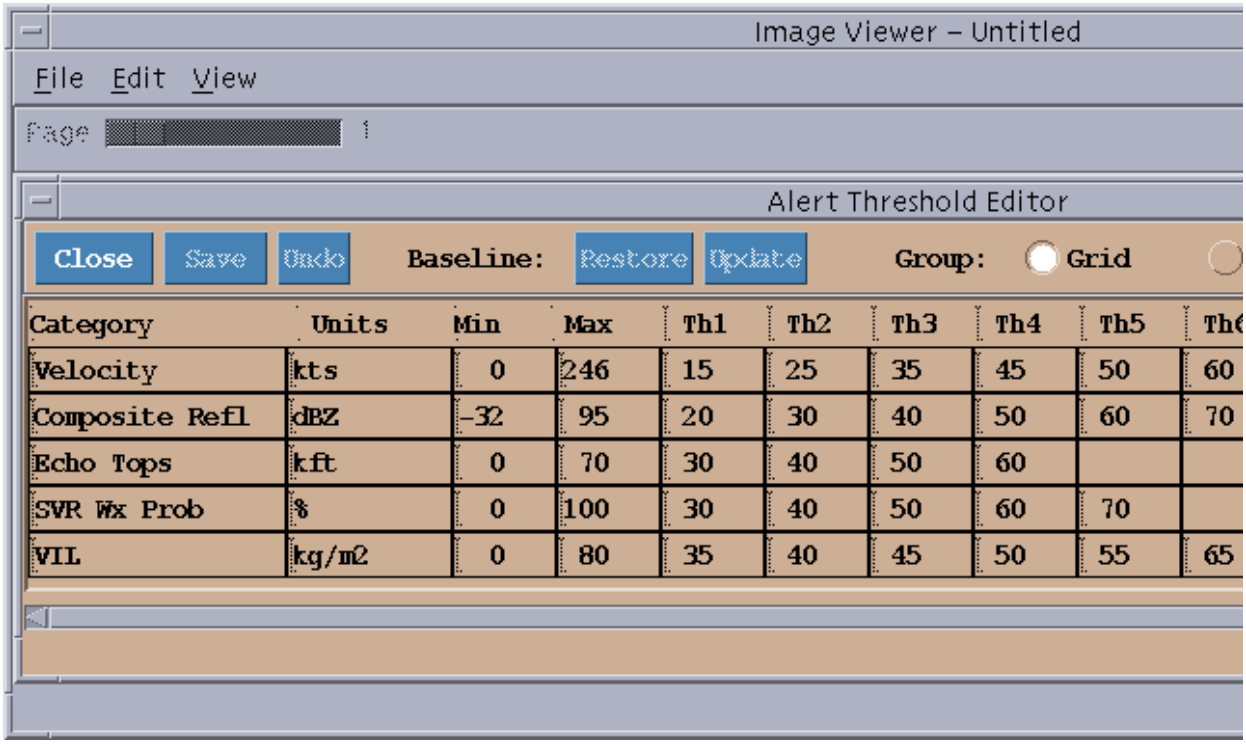
8. Using the mouse, check the box next to `Hide Window During Capture` to avoid having any portions of the Snapshot windows included in the picture. A check mark will appear in the box and `Snap Delay` time will automatically change to 8 seconds. The bottom of the window will display the message `Timer adjusted to guarantee correct operation`.

9. Click on the **Snap** button. The bottom of the window displays the message `Use Button 1 to select the window, Esc to cancel.` The mouse pointer changes to crosshairs.

NOTE

When taking a snapshot of a menu or some other pop-up or pull-down element, you can delay the time between clicking *Snap* and the snapshot actually being taken by increasing the number of *Snap Delay* seconds. After clicking on the `Snap` button, use the extra seconds to bring up the menu or pop-up/pull-down in the window or region being snapped.

10. Click the crosshair pointer inside the window to be captured. The `Snapshot` window will disappear and then reappear 8 seconds later. The message at the bottom of the `Snapshot` window will read `Snap succeeded` once the snapping process is complete. The `Image Viewer - Untitled` window (see Figure 2) will display the newly snapped image, and an `Image Viewer – Palette` window will also appear.



Category	Units	Min	Max	Th1	Th2	Th3	Th4	Th5	Th6
Velocity	kts	0	246	15	25	35	45	50	60
Composite Refl	dBZ	-32	95	20	30	40	50	60	70
Echo Tops	kft	0	70	30	40	50	60		
SVR Wx Prob	%	0	100	30	40	50	60	70	
VIL	kg/m2	0	80	35	40	45	50	55	65

Figure 2 Image Viewer - Untitled Window

ATTACHMENT 1 (Continued)

MSCF PRINTING SITE ADAPTABLE PARAMETERS

NOTES

If the `Hide Window During Capture` button was not checked, the `Snapshot` window will remain visible with the message `Bringing image into Image Viewer` visible at the bottom (message appears only momentarily). If the `Snapshot` and `Image Viewer` windows are obscuring any area of the window being snapped then those parts of those windows will be included in the resulting image.

Before printing, ensure there is a printer connected to the system. If not, use the UNIX *ftp* utility or save the image to removable media to move the image file to a system having print capabilities such as an MSCF.

The MSCF Phaser 750 color laser printer is very slow. Observe the feedback window on the printer to verify the printer is turned on and is processing the print task.

11. To print the image, click on **File** on the menu bar of the `Image Viewer - Untitled` window and click on **Print** from the drop down menu.

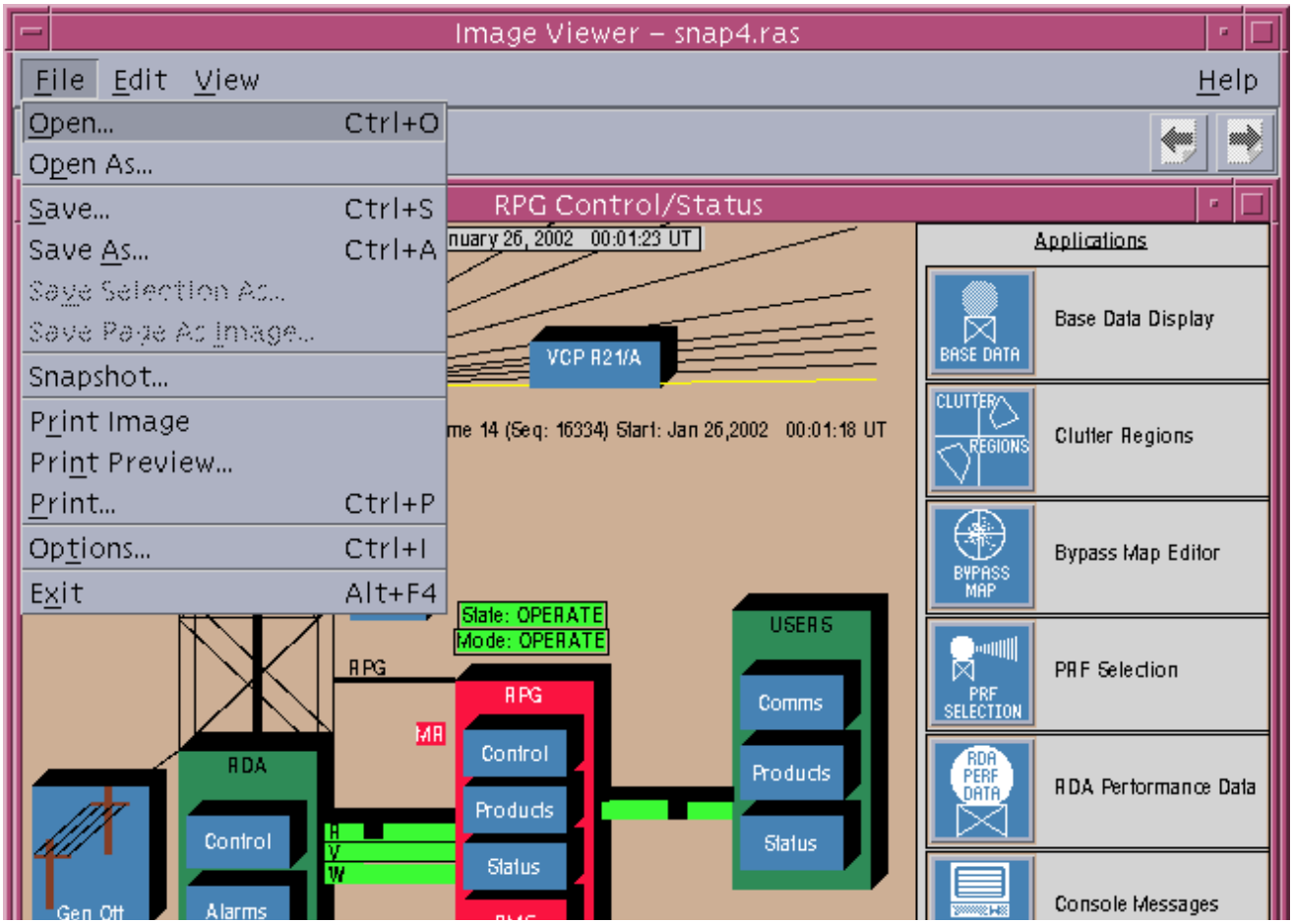


Figure 3 Image Viewer with Snapped Image Showing Drop-Down File Menu

12. In the `Image Viewer - Print` window (see Figure 4), change the `Image Size:` to **85%** using the slider bar, then change the `Image Orientation:` to **Landscape**. Check the **Centered** button to place the image in the center of the print preview box, then click on the **Print** button at bottom of the `Image Viewer - Print` window. The `Image Viewer - Print` windows will disappear and the printer will produce the desired picture.

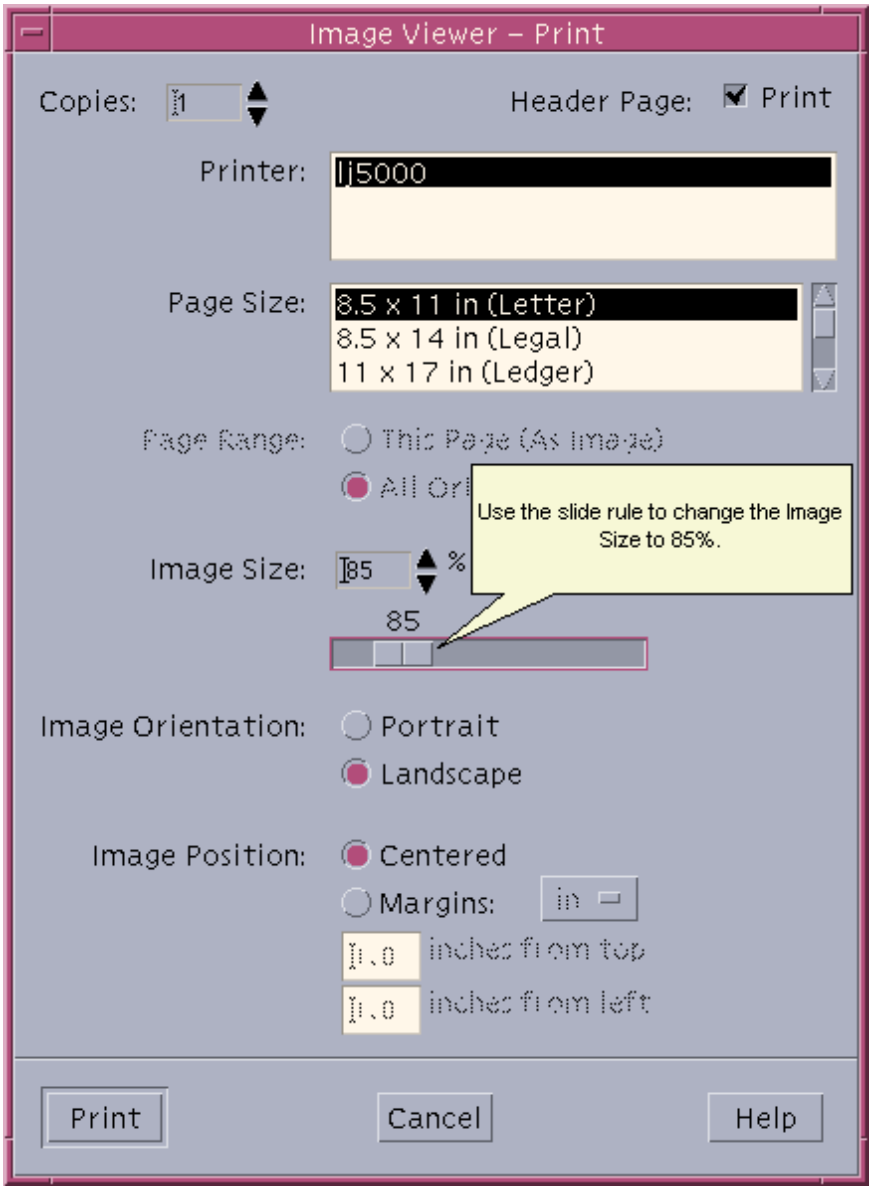


Figure 4 Image Viewer - Print Dialog Window

13. Return to the `Image Viewer - Untitled` window, click on **File** on the menu bar, and click on **Exit** from the drop down menu.

14. The `Image Viewer - Save Snapshot?` window appears (see Figure 5), with the message `Snapshot image not saved. Do you want to save the image?`. Click on the **No** button.

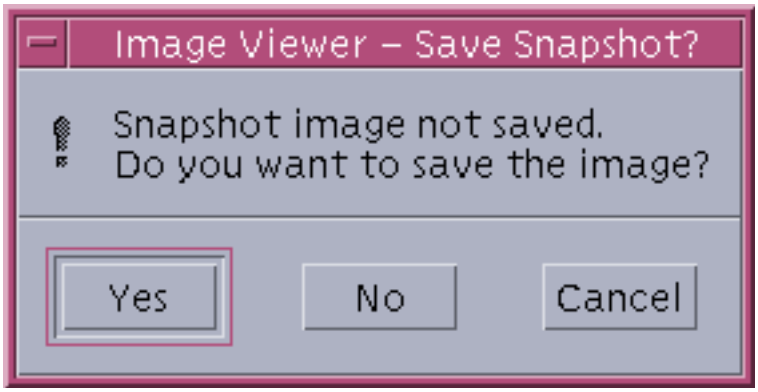


Figure 5 Image Viewer - Save Snapshot? Window

15. The Snapshot application is now closed and operator is returned to the active HCI windows. You can now open up the next window to print and repeat step 5 through 15.

ATTACHMENT 2

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated 1 August 2001
NWS: EHB 6-525
DoD: AFTO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Material Required:

1 new 3 1/2-inch formatted diskette

Initial Conditions:

If the MSCF and/or the BDDS system is located remotely (i.e., DoD or FAA configurations) from the RPG, the System Administrator must coordinate the load date with the MSCF and BDDS locations to determine a mutually agreed upon load date.

The RPG(s) must be operational in order to make the backups of adaptation data from the MSCF. Steps 3 through 11 of this ATTACHMENT 2 must be completed before ATTACHMENT 3, RPG Load Procedures, can be started.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

NOTES

The full system load script will automatically backup user IDs and passwords in case backup data from these account directories need to be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc).

If the following full system software load is aborted on the MSCF for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts in accordance with EHB 6-525, Table 4–82 after the full software load is successfully completed. EHB 6-525, Table 4–82 has the necessary steps to also relink user accounts to the MSCF applications software so that all users can access the MSCF applications.

Backup/restoral of user account data is not mandatory. However, if there are important logs or graphic screen captures stored in the user account directories, and if these need to be retained, then backup the MSCF user account directories using the procedures specified in EHB 6-525, Table 4-61.

Step	Action/Response	Comments
	NOTE Steps 3 through 9 save the current Build 2.0 adaptation data to diskette. This diskette will not be needed again through these procedures. Only if Build 2.0 software is required to be reloaded will this diskette be needed.	
1	If not logged in, login as a regular user (i.e., a site-specific user account).	
2	Communications between the RPG and MSCF are necessary from Step 3 through Step 9. To confirm proper communications, view the MSCF-RPG link at the bottom of the MSCF window (green box for RPG)	
3	Open a `Terminal` window. At the *user*: prompt, enter: **save_adapt_floppy<CR>**	This starts the program to save the MSCF adaptation data.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

4	When the following message appears:
	
	`---> Saving Adaptation Data`
	`---> Insert a new floppy into the floppy drive`
	`---> Hit return when ready`
	
	Insert a new diskette, then enter:
	<CR>
		This continues the program to save the MSCF adaptation data.

5	When the following message appears:
	
	`---> Mounting floppy`
	`---> Saving RPG adaptation data to /floppy/floppy0`
	`Saving RPG adaptation data...`
	
	The user is then returned to the *user*: prompt.
		The MSCF adaptation data is saved to the diskette.

6	At the *user*: prompt, enter: **save_adapt_floppy -o rpg<CR>**	This starts the program to save the RPG adaptation data at the MSCF terminal.

7	Do not insert a new diskette when the following message appears:
	
	`---> Saving Adaptation Data`
	`---> Insert a new floppy into the floppy drive`
	`---> Hit return when ready`
	
	Do not insert a new diskette as the RPG adaptation data will be automatically labeled and dated differently and can be saved on the same diskette as the MSCF adaptation data.
	
	Enter:
	<CR>
		This continues the program to save the RPG adaptation data.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

8	When the following message appears:
	
	`---> Mounting floppy`
	`---> Saving RPG adaptation data to /floppy/floppy0`
	`Saving RPG adaptation data...`
	
	The user is then returned to the *user*: prompt.
		The RPG adaptation data is saved to the diskette.

9	If this is an MSCF off of a FAA redundant system, at the *user*: prompt, enter: **save_adapt_floppy -o rpg2<CR>**	The feedback responses will be the same as steps 7 and 8. The same diskette can be used to save the Channel 2 data.
10	When the *user*: prompt appears, manually press the button on the floppy drive to eject the diskette.	Ejects diskette.
11	Pull out the diskette. Move the write protect tab to the write protect position. Label the diskette with the following information: MSCF and RPG Adaptation Data Build 2.0 Date the backup was made Site ID Store this diskette in a safe location. This diskette WILL NOT be used again in these procedures.	This diskette should only be used if Software Build 2.0 is reloaded.
12	Close all windows, including those minimized.	This leaves the user at the CDE level.
13	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the confirmation window.	Leaves the CDE.
14	Push the button below the green LED on the front of the MSCF Processor. Takes approximately 20 seconds to complete the shutdown.	Halts the system and the system goes to an `ok` prompt.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE Steps 13 through 14 contain methods to halt a system in a normal manner. Should these methods not work and there is no `ok` prompt, (possible system corruption), use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **<Stop>A** (i.e., simultaneously press the **<Stop>** and **A** keys) after it starts to boot. This stops the boot process. Then proceed to step 15.	
15	Open the CD-ROM drive at the MSCF, place the CD-ROM labeled **"RPG LOAD MEDIA Version 3.0"**, into the CD-ROM drive and close the cradle.	Your site received two copies of identical software. Either copy can be used.
16	At the `ok` prompt, enter: **set–defaults<CR>**	This ensures all Non-Volatile Random Access Memory (NVRAM) settings are returned to default values.
17	At the `ok` prompt, enter: **boot cdrom<CR>**	This boots the CD-ROM disk. Some disk check errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs ...` message.
	NOTE If the load starts and it is then realized that an incorrect entry was made, let the software complete its load and then start this procedure over at step 12. If the load is aborted while in progress, all user accounts will be lost.	

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

18	In approximately 2 minutes, when the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	2<CR>
		Indicates `Installing MSCF System...`

19	When the following message appears:
	
	`A Distant MSCF connects to a DOD or FAA site. Is this a Distant MSCF?`
	`Yes or No [y,n,?,q]`
	
	Enter “n” for an MSCF off of a NWS system. Enter “y” for an MSCF off of a DoD or FAA system.
	
	Enter either
	n<CR> or **y<CR>**
		Installing MSCF system.

20	When the following message appears:
	
	`Please enter the radar’s site call letters (type ’help’ for list):`
	
	Enter the appropriate four letter site mnemonic (in lower case):*xxxx*
	Enter:
	***xxxx*<CR>**
		Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
		
		System responds with the system type, network number, and netmask. For example:
		
		`System Type is: MSCF`
		`Site Name is:  kxxx or pxxx`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE The installation will start and it will take approximately 25 minutes to complete.	
21	When the following message appears: `Do you want to restore an adaptation archive from CD or floppy for` ***site mnemonic*** `Yes or No [y,n,?,q]` Enter: **y<CR>**	*Site mnemonic* is `kxxx or pxxx`

22	When the following message appears:
	
	`Choose the adaptation archive media to restore from:`
	
	`1 Floppy`
	`2 CD (current install CD)`
	
	`Enter Numeric Selection from Above, q to Quit or ? for Help: [?,??,q]`
	
	Enter:
	1<CR>
		At this time, adaptation data can only be restored from a diskette. Use the diskette, titled "**RPG ADAPTATION DATA**", fourth line **"Version: 3.0"**, provided in the kit.
		
		For DoD and FAA Distant MSCFs, the diskette will be labeled **"MSCF ADAPTATION DATA"**, fourth line **"Version: 3.0"**.

23	When the following message appears: `Is the floppy in the drive ready?` Insert the diskette: **RPG ADAPTATION DATA**, (or **MSCF ADAPTATION DATA** for DoD and FAA sites) and enter: **y<CR>**	System starts to mount diskette.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

24	When the following message appears:
	
	`Choose the adaptation file to restore:`
	`1. ./adapt00...`*site specific info*
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help: [?,??,q]`
	
	Enter:
	1<CR>
		The "*site specific info*" will consist of the site mnemonic and the date/time when the adaptation data file was created at the ROC. This diskette is not a site backup. This is the diskette supplied with the kit.

	NOTES System time should be checked/set to ensure accurate system operation. Steps 25 and 26 provide guidance for performing this action prior to system reboot. The automated synchronization of the clocks will not work correctly if the clocks are more than 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.	

25	When the following message appears:
	
	`MSCF Installation Done!`
	`Please [q]uit menu to reboot.`
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help: [?,??,q]:`
	
	Enter:
	4<CR>
	to go into the Utilities Menu, then enter:
	1<CR>
	to get to a shell prompt.
		Adaptation data successfully retrieved from media.
		
		For DoD and FAA sites, the prompt will start as:
		`Distant MSCF installation done!`

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
26	Verify the displayed date/time is accurate within one minute. Call the WWV at (303) 499-7111 for current time. At the # prompt, enter: **date<CR>** to refresh the date/time display. If necessary, set the date/time (GMT) using the procedure in EHB 6-525, Table 4–76 starting at step 3. When completed, at the # prompt, enter: **exit<CR>** to return to the main load menu.	Allows check/set of system time prior to reboot. For FAA and DoD the MSCF is the master clock. Set this time as accurately as possible. For NWS, the MSCF will get the accurate clock time from the AWIPS.

27	When the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	q<CR>
		This will allow selection of a system reboot.

28	When the following message appears: `Do you want to reboot the system?` Enter: **y<CR>** Rebooting system make take approximately 2.5 minutes.	Menu will temporarily pop back up and then system reboots. On the first boot, a disk–type error may be noted on a non–existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non–critical and will not occur on subsequent boots.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE The MSCF is now fully functional and applications are loaded/started. The remaining steps are for setting the root password and loading the EPSS.	
29	At the CDE login window, click and hold **Options** then select **Command Line Login**. After the three lines of comments there is no prompt.	Will enable login as root outside of the CDE.
30	Enter: **<CR>**	Necessary to get to a *site_mnemonic* `console login:` prompt.
31	At the *site mnemonic* `console login:` prompt, enter: **root<CR>**	At this point, the system will not prompt for a root password because it is not yet set at this time.
32	At the # prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.
33	Remove the CD-ROM and close the cradle. Save the CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG LOAD MEDIA Version 3.0**."
34	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
35	At the `New password:` prompt, enter the desired: *root_password***<CR>**	The system prompts the user to re–enter the new password.
36	At the `Re-enter new password:` prompt, re–enter the desired: *root_password***<CR>**	Indicates the password was successfully changed for root.
37	Open the CD-ROM drive at the MSCF, place the CD-ROM labeled **"RPG EPSS Files...Use with RPG Build 3.0"** into the CD-ROM drive and close the cradle.	
38	At the # prompt, enter: **cd /usr/local/bin<CR>**	Changes to the directory where local executables are stored.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
39	At the # prompt, enter: **./install_epss.ksh<CR>**	Starts the script to install the EPSS.

40	When the following message appears:
	
	`Do you want to install`
	`EPSS on this system's hard`
	`drive?`
	`Yes or No [y, n, ?,q]`
	
	Enter:
	y<CR>
	
	Takes approximately 2 minutes. When the EPSS installation is complete the # prompt returns.
		Installs the EPSS to provide on–line operator help screens. The EPSS icon (of an RDA tower and shelter with a question mark) will be placed on the left side of the Control Panel on the next login as a normal user.

41	At the # prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.
42	Remove the CD-ROM and close the cradle. Save the CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG EPSS Files...Use with RPG Build 3.0.**"
43	At the # prompt, enter: **eject<CR>**	
44	When the following message appears: `/vol/dev/rdiskette0 /...` The diskette can now be manually ejected. Press the button on the right side of the diskette drive and remove the diskette.	This is the diskette labeled "**RPG ADAPTATION DATA**" or "**MSCF ADAPTATION DATA.**"
45	At the # prompt, enter: **exit<CR>** System returns to the CDE login window after approximately 30 seconds.	

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
46	Log into the CDE as a normal user. However, do not open an RPG HCI display as the MSCF is not compatible with the RPG until both have Build 3.0 loaded.	When logging into the CDE at the MSCF, an MSCF Display should automatically start.
	NOTE All normal user accounts have been set up with a default CDE "look" which includes one `Console` window, one `Terminal` window, and one digital clock. Due to variances in monitor sizes and types, the user may need to rearrange these items on the desktop as desired for best viewing. When arranged as desired, then log out of CDE to save the new desktop "look". Inform all users that when they start the EPSS with the icon on the Control Panel, they should use Netscape's Edit Preferences option to set both the Fixed and Variable Width fonts to Application (Dt) Size 12. Refer to EHB 6–526 Operations Instructions for specific procedures concerning setup and use of the EPSS.	
47	If you have a remote MSCF perform the following steps. If not, skip to the next series of notes which follow step 48. At the *user*: prompt, enter: **remote_mscfserver<CR>**	This temporarily starts the Remote MSCF Server application which can later be used to display graphical MSCF windows at a "remote MSCF" location (e.g., the RDA/RPG Remote Access Terminal (RRRAT)). At this point, it will only be temporarily started to set a password.
48	At the Remote MSCF Server application `Password:` prompt, enter the desired site–unique password. At the `Verify:` prompt, reenter the same password.	The site System Administrator will normally control this password. After setting the password, the Remote MSCF Server is not actually running. When actually needed for remote graphical access, it will be restarted through a remote terminal session.

ATTACHMENT 2 (Continued)

MSCF SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

NOTES

If it is necessary to restore the user accounts (data only), use procedures specified in EHB 6-525, Table 4-68.

ATTACHMENT 3 must be completed before verifying if the MSCF is operational. Since the RPG is currently running at Software Build 2.0, the MSCF will not be compatible with the RPG.

The MSCF is now operational. Once ATTACHMENT 3 is completed, if the MSCF is not operational, call the WSR-88D Hotline at (800) 643-3363.

If at a remote MSCF, you may now complete ATTACHMENT 5, if you have a BDDS.

NWS: EHB-6, Software Note 21
DoD: TO 31P1-4-108-605
FAA: EEM Modification Handbook 6345.1 CHG 36, Chap 33

ATTACHMENT 3

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated 1 August 2001
NWS: EHB 6-525
DoD: AFTO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Material Required:

1 new 3 1/2-inch formatted diskette

Initial Conditions:

Radar operational. RPG in control. RDA in remote control.

NOTES

The MSCF is the operating position for the WSR-88D radar. If the MSCF is remote from the RPG, the load dates for the RPG and MSCF must be coordinated. The MSCF operator will require sufficient lead time to record and print all site-specific meteorological adaptable parameter screens, site-specific generation and distribution lists parameter screens, the authorized dial user list screen, and the dial-in port password screen. This data must be re-entered by the MSCF operator upon completion of the Build 3.0 load for both MSCF and RPG because there is no merge forward capability for RPG adaptation data at this time.

If the following full system software load is aborted on the RPG for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts in accordance with NWS EHB 6-525, AFTO 31P1-4-108-452-1, and FAA Order 6345.1 V49, Table 4-82 after the full software load is successfully completed.

For FAA sites: Load the inactive non-controlling channel first. This will allow the active/controlling channel to continue to operate and minimize the total down time.

If the screen is blank and this is being performed at the RPG workstation, Raritan user must be selected. Activate mouse and use the on-screen menus to log in as **raritan<CR>** user (no password) or, if a screen saver is not active yet, press the **<Scroll**

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Lock> key twice quickly to activate the on-screen menus. Then select the RPG user channel.

Step	Action/Response	Comments
1	For sites with distant MSCFs: The RPG Adaptation Data must be saved at the distant MSCFs first before the RPGs can be shut down. Call the MSCF site and ensure they have completed steps 3 through 11 of ATTACHMENT 2 before you continue with ATTACHMENT 3.	
2	If not logged in, log in as a regular user. For FAA sites only: Be on the active/controlling RPG channel.	
3	If there is not an HCI, open one. In a `Terminal` window, at the *user*: prompt, enter: **hci &<CR>**	The HCI will be used to send out a free text message and to put the RDA into Standby

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
4	Send out a free text message using the `Console Messages` window under the Applications column. Click on the **Console Messages** icon. Click on **All** destinations under the **Other** category. Click on **All** destinations under the **Class 1** category. Click on the outgoing messages edit block to reposition the cursor. Using the keypad, enter the desired message. For NWS and DoD sites, state the radar will be down for approximately 2 hours for Build 3.0 software loading. For FAA sites, the 2 hour down period will not start until loading of the inactive channel is nearly complete. State the scheduled 2 hour outage will start approximately 1 hour after beginning loading of the inactive channel. After clicking on the **Send** button, close the `Console Messages` window.	Response in feedback line of the HCI will read: `SENDING CONSOLE MESSAGE.` FAA example: Inactive channel loading starts at 15Z. Estimated outage will be from 16Z to 18Z.
5	For NWS and DoD: Under the RDA box, click the **Control** button. Under RDA State, click on **Standby** and **Yes**. Close the `RDA Control/Status` Window. For FAA sites only: Go physically to the inactive/non-controlling RPG channel. The RDA is already in Standby. Continue with the next step.	The RDA will be in Standby state with the antenna in park prior to the software being loaded.
6	Open a new `Terminal` window. At the *user*: prompt, enter: **save_adapt_floppy<CR>**	This starts the RPG adaptation data save program.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

7	When the following message appears:
	
	`---> Saving Adaptation Data`
	`---> Insert a new floppy into the floppy drive`
	`---> Hit return when ready`
	
	Insert a new diskette, then enter:
	<CR>
		This continues the RPG adaptation data save program.

8	When the following message appears:
	
	`---> Mounting floppy`
	`---> Saving RPG adaptation data to /floppy/floppy0`
	`Saving RPG adaptation data . . .`
	
	User is returned to the *user*: prompt.
	
	Manually press the button on the front of the floppy drive to eject the diskette.
		This completes the RPG adaptation data save for Build 2.0.
		
		Ejects diskette.

9	Remove the diskette. Move the write protect tab to the write protect position. Label the diskette with the following information: RPG Adaptation Data Build 2.0 Date the backup was made Site ID Store this diskette in a safe location. This diskette <u>will not</u> be used again in these procedures.	This diskette should only be used if Software Build 2.0 is reloaded.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTES The full system load script will automatically backup user IDs and passwords in case backup data from these account directories need to be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc). Backup/restoral of user account data is not mandatory. However, if there are important logs or graphic screen captures stored in the user account directories and if these need to be retained, then backup the RPG user account directories using the procedures specified in EHB 6-525, Table 4-61, AFTO 31P1-4-108-452-1, FAA 6345.1 V49.	
10	Close all windows and terminals, including those minimized.	
11	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the confirmation window.	This leaves the CDE and the CDE login reappears.
12	Push the button below the green LED on the front of the RPG processor. Wait until the `ok` prompt appears which will take approximately 80 seconds.	No immediate response for approximately 50 seconds, then another 30 seconds to complete the shutdown. Halts the system and system goes to an `ok` prompt.
	NOTES Steps 11 through 12 contain methods to halt the system in a normal manner. Should these methods not work and there is no `ok` prompt (possible system corruption), use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **<Stop>A** (i.e., simultaneously press the **<Stop>** and **A** keys) after it starts to boot. This stops the boot process. Proceed to step 12.	
13	Open the CD-ROM drive at the RPG, place the CD-ROM labeled, **"RPG LOAD MEDIA Version 3.0"**, in the CD-ROM drive and close the cradle.	Your site received two copies of identical software. Either copy can be used.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
14	At the `ok` prompt, enter: **set-defaults<CR>**	Ensures all NVRAM settings are returned to default values.
15	At the `ok` prompt, enter: **boot cdrom<CR>**	Boots the CD-ROM disk. Some disk errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs...` message.

16	In approximately 2 minutes, when the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]`
	
	Enter:
	1<CR>
		Indicates `Installing RPG System...`

17	when the following message appears:
	
	`Please enter the radar's site call letters (type 'help' for list):`
	
	Enter the appropriate four letter site mnemonic (in lower case):*xxxx*
	
	Enter:
	***xxxx*<CR>**.
	
	NWS and DoD: Proceed to step 19 while the software is loading.
	
	<u>For FAA only</u>:
	Proceed to the next step.
		Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
		
		System responds with the system type, network number, and netmask. For example:
		
		`System Type is: RPG`
		`Site Name is: kxxx or pxxx`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`

Step	Action/Response	Comments
18	For FAA only: When the following message appears: `Is this channel 1 or 2?` Enter: **1<CR>** or **2<CR>** Depending on the channel being loaded. Proceed to next step while software is loading.	
19	While the software is loading, cycle the power switch off for five seconds and then back on at the rear of all three communication servers (UD70/170A15, A16 and A17). The A15-A17 labels are midway up on the front right side of the cabinet.	This is necessary to allow for the communication servers to upload new internal operating software if it changed on the RPG processor as part of the new software load. The upload will not actually occur until the RPG processor itself is booted in subsequent steps (but still before the RPG applications software starts).
	NOTES The installation will start and take approximately 25 minutes to complete. If the screen is timed out and this is being performed at the RPG workstation in the RPGPCA, Raritan user must be selected. Activate mouse and use the on-screen menus to log in as **raritan<CR>** user (no password) or, if a screen saver is not active yet, press the **<Scroll Lock>** key twice quickly to activate the on-screen menus. Then select the RPG user channel.	
20	When the following message appears: `Do you want to restore an adaptation archive from CD or floppy for` ***site_mnemonic****`?`* `Yes or No [y,n,?,q]` Enter: **y<CR>**	*site_mnemonic* is the site being loaded at the time (site mnemonic kxxx or pxxx).

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

21	When the following message appears:
	
	`Choose the adaptation archive media to restore from:`
	
	`1 Floppy`
	`2 CD (current install CD)`
	
	`Enter Numeric Selection from Above, q to Quit or ? for Help: [?,??,q]`
	
	Enter:
	1<CR>
		At this time, adaptation data can only be restored from a diskette. Use the diskette titled, **"RPG ADAPTATION DATA"**, fourth line: **"Version: 3.0"** provided in the kit.
		
		Diskette selected.

22	When the following message appears:
	
	`Is the floppy in the drive and ready?`
	
	`Yes or No [y,n,?,q]`
	
	Insert the **"RPG ADAPTATION DATA"** diskette in the floppy drive and then enter:
	y<CR>
		System starts to mount diskette.

23	When the following message appears:
	
	`Trying to mount floppy...`
	
	`Choose the adaptation file to restore:`
	
	`1 ./adapt00001.`*site specific info*
	
	`Enter numeric selection from Above,`
	`q to Quit for ? for Help: [?,??,q]`
	
	Enter:
	1<CR>
		The *site specific info* will consist of the site mnemonic and the date/time when the adaptation data file was created at the ROC. This diskette is not a site backup. This is the diskette supplied with the kit.
		
		<u>For FAA only</u>:
		Channel 1will have only the rpg1file displayed. Channel 2 will have only the rpg2 file displayed.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTES System time will now be checked/set to ensure accurate system operation. Steps 24 and 25 provide guidance for performing this action prior to system reboot. In NWS configurations, the clock will be synchronized with AWIPS. In DoD and FAA configurations, the clock will be synchronized with the MSCF. The automated synchronization of the clocks will not work correctly if the clocks are more than 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.	

24	When the following message appears:
	
	`Adaptation data successfully received from media`
	
	`RPG Installation Done!`
	`Please [q]uit menu to reboot.`
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	
	`Enter Numeric Selection from Above, q to Quit or ? for Help: [?,??,q]:`
	
	Enter:
	4<CR>
	to go into the Utilities Menu, then enter:
	1<CR>
	to get to a shell prompt.
		The adaptation data successfully retrieved from the media.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
25	Verify the displayed date/time is accurate within one minute. Call the WWV at (303) 499-7111 for current time. At the # prompt, enter: **date<CR>** to redisplay a new date/time. If necessary, set the date/time (GMT) using the procedures in EHB 6-525, Table 4-76 starting at step 3. When completed, enter: **exit<CR>** to return to the main load menu.	Allows check/set system time prior to reboot.

26	When the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	
	`Enter Numeric Selection from Above, q to Quit or ? for Help: [?,??,q]:`
	
	Enter:
	q<CR>
		This will allow selection of a system reboot.

27	<u>For FAA sites only</u>: FIRST TIME THROUGH. At the Active/ Controlling RPG channel HCI, bring the RDA to SHUTDOWN. Bring the RPG to OFF. From the HCI RPG Control window, shut down the other RPG to OFF. SECOND TIME THROUGH. Disregard this entire step.	This will prevent crosstalk between channels.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
28	When the following message appears: `Do you want to reboot the system?` Enter: **y<CR>** In approximately 2.5 minutes the CDE login window appears.	Menu will temporarily pop back up and then system reboots. On the first boot, a disk-type error may be noted on a non-existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non-critical and will not occur on subsequent boots.
29	At the CDE login window, click and hold **Options** then select **Command Line Login.** After three lines of comments appear, there is no prompt**.**	Will enable login as root outside of the CDE.
30	Enter: **<CR>**	Necessary to get to a *`site_mnemonic`* `console login:` prompt.
31	At the *`site_mnemonic`* `console login:` prompt, enter: **root<CR>**	At this point, the system will not prompt for a root password because it is not yet set at this time.
32	At the # prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.
33	Remove the CD-ROM, close the cradle. Save the CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG LOAD MEDIA Version 3.0.**"
34	At the # prompt, enter: **eject<CR>**	This will start the ejection of the RPG Adaptation diskette. The diskette does not automatically eject from the drive.
35	When the message appears: `/vol/dev/rdiskette0 /...` The diskette can now be manually ejected. Push the button on the right of the disk drive, remove the diskette, and save it in a safe location.	This is the diskette labeled "**RPG ADAPTATION DATA.**"

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
36	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
37	At the `New password:` prompt, enter the desired: *root password***<CR>**	The system prompts the user to re-enter the new password.
38	At the `Re-enter new password:` prompt, re-enter the desired: *root password***<CR>**	Should indicate the password was successfully changed for root.
39	Open the CD-ROM drive at the RPG, place the CD-ROM labeled **"RPG EPSS Files... Use with RPG Build 3.0"** into the CD-ROM drive and close the cradle.	
40	At the # prompt, enter: **cd /usr/local/bin<CR>**	Changes to the directory where local executables are stored.
41	At the # prompt, enter: **./install_epss.ksh<CR>**	Starts the script to install the EPSS.

42	When the message appears:
	
	`Do you want to install EPSS on this system's hard drive?`
	`Yes or No [y, n, ?,q]`
	
	Enter:
	y<CR>
	
	Takes approximately 2 minutes. When the EPSS installation is complete the # prompt appears.
		Installs the EPSS to provide on–line operator help screens. The EPSS icon (of an RDA tower and shelter with a question mark) will be placed on the left side of the Control Panel on the next login as a normal user.

43	At the # prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.
44	Remove the CD-ROM and close the cradle. Save the CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG EPSS Files... Use with RPG Build 3.0**."

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
45	At the # prompt, enter: **exit<CR>**	System returns to the CDE login window after approximately 30 seconds.
46	At the RPG processor, when a CDE Desktop Login screen is present, login as the normal user. `Console` and `Terminal` windows should appear. If a `Terminal` window does not appear, open one.	
47	Open the CD-ROM drive at the RPG, place the CD-ROM labeled "**RPG Blockage Files . . . Use with RPG Build 3.0**" into the CD-ROM drive and close the cradle.	
48	In a `Terminal` window, at the *user*: prompt, enter: **cd /cdrom/cdromØ<CR>** If a `File Manager` window appears before the command is completed, the keyboard will lock up. If this occurs, close the `File Manager` window and continue with the step.	Changes the prompt to the CD-ROM directory.
NOTE If a warning message is displayed indicating permissions problems, cancel the install process by entering **<CTRL>C**. Then enter **cd<CR>** to return to the V1.XX directory.		
49	If the File Manager window titled "`File Manager-RPG #1`" has not yet appeared from step 48, it will appear now. Close this File Manager window by clicking in the upper left hand corner on the **"File",** and **"Close"**. Then continue with the next step as the keyboard is now functional again.	This step is only done to push the focus of the window back to the `Terminal` window.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
50	At the `cdrom0 :` prompt, enter: **./install_tbd<CR>** When completed, the following message appears: `"Finished! Installed the Terrain Blockage Data. Restart RPG Software for Data to take effect."`	
51	At the `cdrom0 :` prompt, enter: **cd<CR>**	Changes the prompt to the V1.XX directory.
52	At the `V1.XX :` prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.
53	Remove the CD-ROM and close the cradle. Save the CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG Blockage Files . . . Use with RPG Build 3.0**."
54	At the `V1.XX :` prompt, enter: **mrpg shutdown<CR>** This should take approximately 10 seconds.	Shuts down the RPG.
55	When the following message appears: `RPG processes are notified to shutdown` It will be followed by the `V1.XX` prompt. At the `V1.XX:` prompt, enter: **mrpg startup<CR>** This should take approximately 1 minute.	This restarts the RPG with the RPG Blockage Files utilized.

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
56	When the following message appears: `RPG Startup Completed` It will be followed by a *user*: prompt (or a `V1.XX` prompt). enter: **hci &<CR>**	This opens an RPG HCI window.
57	The RPG is now operational. If the RPG is not operational, call the WSR-88D Hotline at (800) 643-3363.	
58	For FAA sites only. FIRST TIME THROUGH. The Inactive/Non-controlling channel is now loaded with Build 3.0. The RPG software is operational, but in Standby. Return to step 6 to load the other channel currently on the old build. SECOND TIME THROUGH. Both channels have Build 3.0 loaded. Continue on with the next step.	
59	The RDA is in standby. For NWS and DoD, Click on the **RDA Control** button and click on **Operate** and **Yes**. For FAA, go to the Controlling channel, Click on the **RDA Control** button and click on **Operate** and **Yes**. Close the `RDA Control/Status` window	The radar is now operating.
60	For distant MSCF locations, notify the MSCF site and any agency-specific offices that Build 3.0 has been succesfully loaded on the RPG(s).	

ATTACHMENT 3 (Continued)

RPG SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
61	The MSCF (or distant MSCF) can now be restored with a functional RPG HCI as both the RPG and MSCF have Build 3.0 software loaded. For FAA sites only: This step is not necessary for the second channel.	

ATTACHMENT 4

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Tools Required:

I/O Panel J8 Port
Cisco Cable # 72–0876–01 or 72–1259–01
* RJ45–DB25(F) adapter #2300027–301
(These tools should be in the kit provided with the ORPG installation.)

* If this adapter is not available, it can be replaced by the RJ45–DB9(F) adapter (Cisco 74–0495–01), DB9 male gender changer, and the 10 foot DB9(F)–DB25(M) serial cable (Black Box EVMBMC–0010). If this combination is used, when referenced below, it should be connected to I/O panel J7 instead of J8. Also, when activated with a tip session, use `/dev/cua/1` instead of `/dev/cua/3`.

Initial Conditions:

This procedure can be performed while the radar is operational.

However, if state change messages appear in the terminal window and interrupt the entry of commands, put the RDA into STANDBY before continuing with load procedures. Notify all appropriate offices that the RDA will be in STANDBY for approximately 1 hour.

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTES The router must now be changed to handle future configurations for the OPUP. Prerequisite for using the Radar Product Generation Processor Communications Assembly (RPGPCA) for setup: The Router (UD70A2) is installed and connected to the LAN Switch (UD70A13) in its normal manner. The RPG processor is fully loaded, operational and connected to the LAN Switch (UD70A13) in its normal manner within the RPGPCA cabinet UD70. The next step requires input of the site-specific IP address from the RPG processor. If this number is not known, in a terminal window, at any prompt enter the following: **more /etc/hosts<CR>** and put the *Third Octet Subnet* number (found near the top of the hosts file) in the blank below: 172.25._____.1 For FAA Channel 2, the IP address will have the form: 172.25._____.71 For FAA sites, recommend start with the Inactive/Non-controlling channel.	
1	For the router and RPGPCA setup: Plug the Cisco cable into the CON port at the front of the Cisco 3600 Router.	See Tools Required list at the beginning of ATTACHMENT 4.
2	Attach the RJ45–DB25(F) adapter to the free end of the Cisco cable.	
3	Plug the free end of the RJ45–DB25(F) adapter into the I/O Panel J8 port. This port is in the bottom eight inch section of the left hand cabinet as you face the back of the cabinets.	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
4	In a new `Terminal` window, at a *user*`:` prompt, enter: **tip –96ØØ /dev/cua/3<CR>**	
5	After the `connected` feedback appears, enter: **<CR>** to finish establishing the connection.	A `password`: prompt should appear. If there is no prompt, verify the routing of the J8 I/O panel reference EHB 6-525, figure FO7-4, titled “RPG-PCA Data Cables”. Cable W253 goes from J8 to PCI board 2 port 3 (fourth one down on the bottom).
NOTE For simplicity with this procedure the possible *hostname* (**rtr**, **rtr1**, or **rtr2**) is referred to as `rtr` for the remainder of this procedure. When an entry requires the router *hostname*, the user needs to enter the appropriate hostname as directed by the procedure.		
6	When prompted, enter: *site–selected–password* If this is a new box that may have been previously tested by NRC, it will either have no password set for the CONSOLE port or will use a default password of **cisco**.	
7	At the `rtr>` prompt, enter: **enable<CR>**	
8	When prompted, enter: *site–selected–password* If this is a new box that may have been previously tested by NRC, it will either have no password set for the “enable” level or will use a default password of **cisco**.	
CAUTION Upon completion of steps 9 through 11, if power is removed without successful completion of steps 12 through 17 the firmware within the Router will become corrupted (signified by a `router:` prompt) and a new Router must be ordered.		

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
9	At the `rtr#` prompt, enter: **erase startup–config<CR>**	
10	When the following message appears: `Erasing the nvram filesystem will remove all files! Continue? [confirm]` Enter: **<CR>**	`[OK]` will appear.
11	Wait for feedback: `Erase of nvram: complete` and the `rtr#` prompt reappears.	
12	At the `rtr#` prompt, enter: **copy tftp://172.25.===.1/c364Ø.bin flash:<CR>** For FAA Channel 2, enter: **copy tftp://172.25.===.71/c364Ø.bin flash:<CR>** Enter the correct subnet referencing the hosts file.	The IP address is the RPG processor IP Address and === is the site–specific subnet number. Refer to note before step 1 for the site-unique subnet ID.
13	When the following message appears: `Destination filename[c3640.bin]?` Enter: **<CR>**	
14	When the following message appears: `%Warning:There is a file already existing with this name Do you want to over write? [confirm]` Enter: **<CR>**	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

15	When the following message appears:
	
	`Accessing tftp://172.25.===.1/c3640.bin...`
	`Erase flash: before copying? [confirm].`
	
	Enter:
	<CR>
		For FAA Channel 2, the following message will appear:
		
		`Accessing tftp://172.25.===.71/c3640.bin...`
		`Erase flash: before copying? [confirm].`

16	When the following message appears: `Erasing the flash filesystem will remove all files! Continue? [confirm]` Enter: **<CR>**	The message `Erasing device...` will be displayed.
17	Wait for approximately 40 seconds while the older file is erased and newer file loads. Ensure the `Verifying checksum...OK` message appears followed by the `rtr#` prompt before cycling power in the next step. If `Verifying checksum...OK` does not appear, repeat steps 12 through 17 before continuing.	
18	Cycle power to the Router (A2) by manually turning the power switch Off for five seconds, and then back On (The power switch is on the back of the router, right hand side). Once power is returned to the Router, it reloads the default software taking approximately 45 seconds. When complete, the last line of feedback states: `--- System Configuration Dialog ---`	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE Throughout this procedure, the Router state is changed and feedback messages are presented while the user is trying to complete entries. To return to an entry prompt, press **<CR>**.	
19	When the following message appears: `Would you like to enter initial configuration dialog? [yes/no]:` Enter: **n<CR>**	
20	When the following message appears: `Would you like to terminate autoinstall? [yes]:` Enter: **<CR>**	
21	State Changes will be noted. Wait approximately 30 seconds until the State Changes stop, then enter: **<CR>** to continue.	The `Router>` prompt appears.
22	At the `Router>` prompt, enter: **enable<CR>**	The prompt changes to `Router#`.
23	At the `Router#` prompt, enter: **config t<CR>**	The prompt changes to `Router(config)#`.
24	At the `Router(config)#` prompt, enter: **bridge irb<CR>**	
25	At the `Router(config)#` prompt, enter: **bridge 1 protocol ieee<CR>**	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
26	At the `Router(config)#` prompt, enter: **bridge 1 route ip<CR>**	
27	At the `Router(config)#` prompt, enter: **int bvi1<CR>**	The prompt changes to `Router(config-if)#`.
28	State Changes will be noted. Wait approximately 30 seconds until the State Changes stop, then enter: **<CR>** to continue.	
29	Enter the IP address command string, dependent on system and/or channel. For NWS, DoD, or FAA Channel 1, at the `router(config-if)#` prompt, enter: **ip address 172.25.===.7 255.255.255.128<CR>**	Where === is the site–specific subnet ID (see hosts file). Refer to note before step 1 for the site-unique subnet ID. Note: There is a ".7" instead of a ".1" after the site ID in this command string.
30	For FAA Channel 2 only, at the `router(config-if)#` prompt, enter: **ip address 172.25.===.77 255.255.255.128<CR>**	Where === is the site–specific subnet ID (see host file). Refer to note before step 1 for the site-unique subnet ID.
31	At the `Router(config-if)#` prompt, enter: **exit<CR>**	Prompt changes to `Router(config)#`.
32	At the `Router(config)#` prompt, enter: **int fØ/Ø<CR>**	This starts the configuration of the Ethernet port. The prompt changes to `Router(config-if)#`.
33	At the `Router(config-if)#` prompt, enter: **bridge–group 1<CR>**	
34	At the `Router(config-if)#` prompt, enter: **no shutdown<CR>** Wait about 30 seconds for the router to change its status.	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
35	State Changes will be noted. Wait approximately 30 seconds until the State Changes stop, then enter: **<CR>** to continue.	
36	At the `Router(config-if)#` prompt, enter: **end<CR>**	The prompt changes to `Router#`.
37	When the message appears: `Configured from console by console.` Enter: **<CR>**	
38	At the `Router#` prompt, enter: **write mem<CR>** to save the entries.	Wait a few seconds for the router to update and the `Router#` prompt returns.
39	At the `Router#` prompt, enter: **copy tftp running–config<CR>**	Feedback: `Address or name of remote host []?` will appear.
40	For NWS, DoD, or FAA Channel 1 at the `Address or name of remote host []?` prompt: Enter: **172.25.===.1<CR>**	Where === is the site–specific subnet ID (see hosts file).
41	<u>For FAA Channel 2 only</u>, at the `Address or name of remote host []?` prompt: Enter: **172.25.===.71<CR>**	Where === is the site–specific subnet ID (see hosts file).

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
42	When the message appears: `Source filename []?` Enter: **rtr–template<CR>**	
43	When the message appears: `Destination filename [running-config]?` Enter: **<CR>**	
	NOTE The router proceeds with the upload. Error messages noted for non–installed modules are normal. Also, link State Change messages will be noted.	
44	State Changes will be noted. Wait approximately 30 seconds until the State Changes stop, then enter: **<CR>** to continue.	A `rtr#` prompt appears. Prompt would be `rtr1#` for an FAA Channel 1, or `rtr2#` for FAA Channel 2.
45	At the `rtr#` prompt, enter: **copy tftp running–config<CR>**	Message `Address or name of remote host []?` appears.
46	For NWS, DoD, or FAA Channel 1, at the `Address or name of remote host [172.25.===.1]?` prompt: Enter: **172.25.===.1<CR>**	Where === is the site–specific subnet ID (see hosts file).
47	<u>For FAA Channel 2 only</u>, at the `Address or name of remote host [172.25.===.71]?` prompt: Enter: **172.25.===.71<CR>**	Where === is the site–specific subnet ID (see hosts file).

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
48	When the message following appears: `Source filename [rtr-template]?` Depending on user's agency, enter: **faa–specific<CR>** or **dod–specific<CR>** or **nws–specific<CR>**	
49	When the following message appears: `Destination filename [running-config]?` Enter: **<CR>**	
	NOTES The router proceeds with the upload. Error messages noted for non–installed modules are normal. Also, link State Change messages will be noted. Several passwords are assigned for the Router's various ports. To make the management of these passwords simpler for the user, using the same *site–selected–password* is suggested.	
50	State Changes will be noted. Wait approximately 30 seconds until the State Changes stop, then enter: **<CR>** to continue.	A `rtr#` prompt appears. Prompt would be `rtr1#` for an FAA Channel 1, or `rtr2#` for FAA Channel 2.
51	At the `rtr#` prompt, enter: **config t<CR>**	The following message appears: `Enter configuration commands, one per line. End with CNTL/Z.` The prompt changes to `rtr(config)#.`

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
52	At the `rtr(config)#` prompt, enter: **no enable password<CR>**	
53	At the `rtr(config)#` prompt, enter: **service password–encryption<CR>**	
54	At the `rtr(config)#` prompt, enter: **enable password** *site–selected–password***<CR>** Make note of the password for future operations.	Recording the password is critical to future operations.
55	At the `rtr(config)#` prompt, enter: **line vty Ø 4<CR>**	The prompt changes to `rtr(config-line)#.`
56	At the `rtr(config-line)#` prompt, enter: **login<CR>**	
57	At the `rtr(config-line)#` prompt, enter: **password** *site–selected–password***<CR>** Make note of the password for future operations.	Recording the password is critical to future operations.
58	At the `rtr(config-line)#` prompt, enter: **line con Ø<CR>**	
59	At the `rtr(config-line)#` prompt, enter: **login<CR>**	
60	At the `rtr(config-line)#` prompt, enter: **password** *site–selected–password***<CR>** Make note of the password for future operations.	Recording the password is critical to future operations.

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
61	At the `rtr(config-line)#` prompt, enter: **line aux Ø<CR>**	
62	At the `rtr(config-line)#` prompt, enter: **login<CR>**	
63	At the `rtr(config-line)#` prompt, enter: **password** *site–selected–password***<CR>** Make note of the password for future operations.	Recording the password is critical to future operations.
64	At the `rtr(config-line)#` prompt, enter: **exit<CR>**	The prompt changes to `rtr(config)#`.
65	At the `rtr(config)#` prompt, enter: **no service password–encryption<CR>**	
66	At the `rtr(config)#` prompt, enter: **end<CR>**	
67	When the message below appears: `Configured from console by console.` Enter: **<CR>**	The prompt changes to `rtr#`.
68	At the `rtr#` prompt, enter: **write mem<CR>** to save the entries.	Messages will appear. Watch for an `ok` prompt, and then an `rtr#` prompt.
69	At the `rtr#` prompt, enter: **exit<CR>** to exit.	

ATTACHMENT 4 (Continued)

ROUTER SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
70	The message: `Press RETURN to get started` will appear, but there is no prompt. Enter: **~ .** (tilde dot)	`EOT` is displayed and the user is returned to a *user*: prompt. Command is executed when the dot (**.**) is entered.
71	Unplug the data cable from the I/O Panel J8 Port and Cisco Router Con Port. These connections were made at the beginning of this attachment.	
72	The RPG load is complete. Close the terminal window.	
73	<u>For FAA sites only</u>: Switch channels so the new active channel has the router already loaded. Repeat ATTACHMENT 4 for the second channel while it is in STANDBY and non-controlling.	
74	<u>For DoD and FAA sites</u>: Go to ATTACHMENT 8 and report the successful loading of Build 3.0 to the ROC.	

NWS: EHB-6, Software Note 21
DoD: TO 31P1-4-108-605
FAA: EEM Modification Handbook 6345.1 CHG 36, Chap 33

ATTACHMENT 5

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated 1 August 2001
NWS: EHB 6-525
DoD: AFTO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Initial Conditions:

This procedure can be performed while the radar is operational.

NOTE

If the following full system software load is aborted on the BDDS for any reason, all user accounts will be lost. Do not intentionally abort the load. If the load aborts for any reason, reestablish all user accounts IAW EHB 6-525, Table 4–82 after the full software load is successfully completed. If this is a new replacement processor or fixed disk, user accounts must also be reestablished after the load IAW EHB 6-525, Table 4–82.

Step	Action/Response	Comments
	NOTES If this is being performed at a local BDDS workstation (installed in RPGPCA cabinets), Raritan user Channel 2 (BDDS) must be selected. Activate mouse and use the on–screen menus to log in as **raritan<CR>** user (no password) or, if a screen saver is not active yet, press the **<Scroll Lock>** key twice quickly to activate the on–screen menus. Then select the BDDS user channel. Login on the screen saver with the site-specific password. The full system load script will automatically backup user IDs and passwords should backup data from these account directories be restored later. The system full load script will also create new home directories for all users with the current environment file (.cshrc) in–place so backup/restoral of user account data is not mandatory.	

ATTACHMENT 5 (Continued)

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE Steps 1 through 3 contain methods to halt a system in a normal manner. Should these methods not work (possible system corruption), press the button on the front of the Ultra 5/10 processor assembly (below green LED) and wait 30 seconds. If the system still will not shutdown, use the power switch at the rear of the unit and power the processor off for five seconds and back on to reboot it. Then enter **<Stop>A** (i.e., simultaneously press the **<Stop>** and **A** keys) after it starts to boot to stop the boot process. Then proceed to step 5.	
1	If at the main Login window, proceed to step 3. If within the CDE continue with the next step.	
2	Exit out of Common Desktop Environment (CDE) by clicking **EXIT** on the CDE Control Panel and **OK** at the acknowledgement window.	Leave the CDE.
3	Push the button below the green LED on the front of the BDDS Processor. Proceed to step 5. Takes approximately 20 seconds to complete the shutdown.	Halts the system and the system goes to an `ok` prompt.
4	If the system was powered off, then power the system on, and enter **<Stop>A** when the system starts to boot.	An `ok` prompt will appear.
5	Open the CD-ROM drive, place the CD-ROM labeled **"RPG LOAD MEDIA Version 3.0"** in the CD-ROM drive and close the cradle.	
6	At the `ok` prompt, enter: **set–defaults<CR>**	This ensures all NVRAM settings are returned to default values.
7	At the `ok` prompt, enter: **boot cdrom<CR>**	This boots the CD-ROM disk. Some disk check errors may be noted; however, they are not relevant at this point. Disregard the `hsfs mount failed, trying ufs ...` message.

ATTACHMENT 5 (Continued)

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
	NOTE If the load starts and it is then realized that an incorrect entry was made, let the software complete its load and then start this procedure over from the beginning. If the load is aborted while in progress, all user accounts will be lost.	

8	In approximately 3 minutes when the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	3<CR>
		Indicates `Installing BDDS System...`

9	When the following message appears:
	
	`Please enter the radar's site call letters (type 'help' for list):`
	
	Enter the appropriate four letter site mnemonic (in lower case):*xxxx*
	
	Enter:
	***xxxx*<CR>**
		Enter **help<CR>** to see a list of site mnemonics if it is unclear about which mnemonic to use.
		
		System responds with the system type, site name, network number, and netmask. For example:
		
		`System Type is: BDDS`
		`Site name is: kxxx or pxxx`
		`Network is: 172.25.171.0`
		`Subnet Mask is: 255.255.255.128`

	NOTES The installation will start and it will take approximately 25 minutes to complete. System time should be checked/set to ensure accurate system operation. Steps 10 and 11 provide guidance for performing this action prior to system reboot.	

ATTACHMENT 5 (Continued)

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

10	When the following message appears:
	
	`BDDS Installation Done!`
	`Please [q]uit menu to reboot.`
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	4<CR>
	to go into the Utilities Menu, then enter:
	1<CR> to get to a shell prompt.	

	NOTES Perform the next step even though the BDDS will synchronize with the AWIPS for NWS, or MSCF for DoD and FAA. The automated synchronization of the clocks will not work correctly if the clocks are more than 1000 seconds apart. When setting the time, ensure the time entered is within the 1000 second rule.	
11	Verify the displayed date/time is accurate within one minute. Call the WWV at (303) 499-7111 for current time. At the # prompt, enter: **date<CR>** to refresh the date/time display. If necessary, set the date/time (GMT) using the procedures in EHB 6-525, Table 4-76 starting at step 3. When completed, at the # prompt, enter: **exit<CR>** to return to the main load menu.	Allows check/set of system time prior to reboot.

ATTACHMENT 5 (Continued)

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments

12	When the following message appears:
	
	`Choose System Type to Load:`
	`1 RPG`
	`2 MSCF`
	`3 BDDS`
	`4 Utilities`
	`Enter Numeric Selection from Above,`
	`q to Quit or ? for Help:`
	`[?,??,q]:`
	
	Enter:
	q<CR>
		This will allow selection of a system reboot.

13	When the following message appears: `Do you want to reboot the system?` Enter: **y<CR>**	Menu will temporarily pop back up and then system reboots. On the first boot, a disk–type error may be noted on a non–existent disk (e.g., `/dev/dsk/c1t4d0s0`); however, this error is non–critical and will not occur on subsequent boots.
NOTE The BDDS is now fully functional and applications are loaded/started. The BDDS is now able to perform its prime function. The remaining steps are for removing the CD-ROM, setting the root password, and restoring user accounts if desired.		
14	At the CDE login window, click and hold **Options** then select **Command Line Login**. After three lines of comments appear, there is no prompt.	Will enable login as root outside of the CDE.
15	Enter: **<CR>**	Necessary to get to a *`site_mnemonic`* `console login:` prompt.
16	At the *`site_mnemonic`* `console login:` prompt, enter: **root<CR>**	At this point, the system will not prompt for a root password because it is not set at this time.
17	At the # prompt, enter: **eject cdrom<CR>**	CD-ROM cradle opens.

ATTACHMENT 5 (Continued)

BDDS SOFTWARE BUILD 3.0 LOAD INSTRUCTIONS

Step	Action/Response	Comments
18	Remove the CD-ROM and close the cradle. Save CD-ROM in a safe location.	This is the CD-ROM labeled "**RPG LOAD MEDIA Version 3.0.**"
19	At the # prompt, enter: **passwd<CR>**	The system prompts the user to enter a new password.
20	At the `New password:` prompt, enter the desired: *root_password***<CR>**	The system prompts the user to re–enter the new password.
21	At the `Re-enter new password:` prompt, re–enter the desired: *root_password***<CR>**	Should indicate that the password was successfully changed for root.
22	At the # prompt, enter: **exit<CR>** System returns to the main login window after approximately 10 seconds.	If it is not necessary to restore any backed–up user accounts (data only), then this procedure is theoretically complete; however, the following Note provides information for setting up the CDE "look" when logging into a normal user account and into the CDE. If it is necessary to restore user accounts (data only), continue with the final step.
23	The BDDS is now operational. If the BDDS is not operational, call the WSR-88D Hotline at (800) 643-3363.	

NOTES

All normal user accounts have been set up with a default CDE "look" which includes one `Console` window, one `Terminal` window, and one digital clock. Due to variances in monitor sizes and types, the user may need to rearrange these items on the desktop as desired for best viewing. When arranged as desired, log out of CDE to save the new desktop "look."

ATTACHMENT 6

MSCF RESTORATION OF ADAPTABLE PARAMETERS, BACKUPS, AND SYSTEM CHECKS

Technical Manuals Required:

Maintenance Instructions, Radar Product Generator (RPG), dated 1 August 2001
NWS: EHB 6-525
DoD: AFTO 31P1-4-108-452-1
FAA: Order 6345.1 V49

Materials Required:

2 new 3 1/2-inch formatted diskettes

Initial Conditions:

The MSCF and RPG must have Build 3.0 successfully loaded. For FAA sites, both RPGs must be successfully loaded with Build 3.0. Have the hardcopies from ATTACHMENT 1 available.

Step	Action/Response	Comments
1	Use the hard copies of each adaptable parameters window that were printed in Steps 1.a, 1.b, and 1.c of ATTACHMENT 1. At the MSCF display, open an RPG HCI, select each window, and compare the current parameter values with those on the hard copies. When a window is open, click on **Padlock**, click on **URC**, and the site adaptable parameters will be highlighted in white. These will be the only values the sites will have to check. Do all the windows except the clutter files. These have to be entered manually using the prints from Attachment 1. These will be updated in Step 3 of this attachment. If required, edit the URC Level Of Change Authority values of the parameters to match the values on the hard copies. Edit instructions are provided in the Operations Instructions Radar Product Generation (RPG), EHB 6-526 dated 1 August 2001. Discussions on the specific Adaptable Parameter values are found in the Operator Handbook, Guidance on Adaptable Parameters, dated 31 March 2003.	The Clutter Region Files will have just the Default Clutter Map. The site-specific Clutter Region Files are not on the Adaptation Data diskette from Build 2.0 and have to be entered manually.

ATTACHMENT 6 (Continued)

MSCF RESTORATION OF ADAPTABLE PARAMETERS, BACKUPS, AND SYSTEM CHECKS

Step	Action/Response	Comments
2	For FAA sites only**:** When changing the values on the adaptable parameters, the new values will cause a mismatch. These mismatches trigger an automatic update to the other channel. Once you are finished with the first channel, verify the Adaptable Parameter button is green and is labeled Match. The RPG status logs will also reflect each automatic update. Open the status logs to both channels and compare the times of the updates. If they don't match, then the individual values must be checked on each channel.	
3	For the site operator, open the `Clutter Regions` window. Click on the **File** button and the `Clutter Region Files` window appears. Click on the **New** button, and create the desired clutter regions in the graphics window, drawing the appropriate number of regions. The Clutter Region Zones can then be keystroked to match the previous Build Clutter Regions in the tabular columns in the bottom of the window. Save this file using the same title as the previous Build Clutter File. Repeat this for each site Clutter Region File.	The site-specific clutter files are recreated for the new build.
4	Once all the clutter regions have been recreated, they must be saved to the baseline. On the `Clutter Regions` window, open the padlock to the **URC** level of authority. This sensitizes the update button. Click on **Update** and **Yes**.	This updates the baseline clutter files.

ATTACHMENT 6 (Continued)

MSCF RESTORATION OF ADAPTABLE PARAMETERS, BACKUPS, AND SYSTEM CHECKS

Step	Action/Response	Comments
5	If the site was using any file except the default file prior to loading the software, download the desired file once the radar is operational with the new build.	The clutter file in use prior to loading the software build is downloaded to restore the radar to its former operating condition.
6	Open a new terminal window, and at the *user*: prompt, enter: **save_adapt_floppy<CR>**	This starts the MSCF adaptation save program.

7	When the following message appears:
	
	`---> Saving Adaptation Data`
	`---> Insert a new floppy into the floppy drive`
	`---> Hit return when ready`
	
	Insert a new diskette, then
	enter:
	<CR>
		This continues the MSCF adaptation data save program.

8	When the following message appears:
	
	`---> Mounting floppy`
	`---> Saving RPG adaptation data to /floppy/floppy0`
	`Saving RPG adaptation data`
	
	User is returned to the *user*: prompt.
		This saves the MSCF adaptation data with Build 3.0.

9	The RPG must be connected to the MSCF for the following step to work. Look at the MSCF window and ensure the RPG link at the lower left corner is green.	
10	At the *user*: prompt, enter: **save_adapt_floppy -o rpg<CR>**	This starts the program to save the RPG adaptation data at the MSCF terminal.

ATTACHMENT 6 (Continued)

MSCF RESTORATION OF ADAPTABLE PARAMETERS, BACKUPS, AND SYSTEM CHECKS

Step	Action/Response	Comments

11	Do not insert a new diskette when the following message appears:
	
	`---> Saving Adaptation Data`
	`---> Insert a new floppy into the floppy drive`
	`---> Hit return when ready`
	
	Do not insert a new diskette as the RPG adaptation data will be automatically labeled and dated differently and can be saved on the same diskette as the MSCF adaptation data.
	
	Enter:
	<CR>
		This continues the program to save the RPG adaptation data.

12	When the following message appears:
	
	`---> Mounting floppy`
	`---> Saving RPG adaptation data to /floppy/floppy0`
	`Saving RPG adaptation data...`
	
	The user is then returned to the *user*: prompt.
		The RPG adaptation data for Build 3.0 is saved to the diskette.

13	For FAA redundant system only, at the *user*: prompt, enter: **save_adapt_floppy -o rpg2<CR>**	The feedback responses will be the same as steps 11 and 12. The same diskette can be used to save the Channel 2 data.
14	When the *user*: prompt appears, manually press the button on the floppy drive to eject the diskette.	Ejects diskette.
15	Pull out the diskette. Move the write protect tab to the write protect position. Label the diskette with the following information: MSCF and RPG Adaptation Data Build 3.0 Date the backup was made Site ID	

ATTACHMENT 6 (Continued)

MSCF RESTORATION OF ADAPTABLE PARAMETERS, BACKUPS, AND SYSTEM CHECKS

Step	Action/Response	Comments
16	Send the new MSCF and RPG Adaptation Data Build 3.0 diskette to the following address: Radar Operations Center Configuration Management ATTN: Chris Hunt 3200 Marshall Ave Norman, OK 73072-8028	
17	Repeat steps 6 through 15 with a second diskette. This second diskette will be saved at the site.	
18	Store this second diskette in a safe location. This diskette will only be used if Software Build 3.0 is reloaded on the MSCF or RPG.	
19	For the site operator, open the `Environmental Data` window. Click on the **Data Entry** button. In the `Environmental Data Editor` window, verify and update if necessary the Default Storm Motion, the Environmental Winds, and the 0 degrees and -20 degrees hail temperature heights.	
20	Use the hard copies of each window that were printed in steps 2.a and 2.b of Attachment 1. Compare the hardcopies with the new windows to evaluate the overall health of the system and user connections. If there are any differences, take the appropriate actions to restore the original condition of the system.	
21	For NWS sites only: Using ATTACHMENT 9 as a guide, report the successful loading of Build 3.0 on EMRS.	

ATTACHMENT 7

EFFECTIVITY

NWS

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
	Eastern Region			
ALBANY	ALBANY, NY	RPG MSCF BDDS	ALY	WN9518
BINGHAMTON	JOHNSON CITY, NY	RPG MSCF BDDS	BGM	WN9515
BOSTON	TAUNTON, MA	RPG MSCF BDDS	BOX	WN9509
BROOKHAVEN	UPTON, NY	RPG MSCF BDDS	OKX	WN9912
BUFFALO	BUFFALO, NY	RPG MSCF BDDS	BUF	WN9528
BURLINGTON	SOUTH BURLINGTON, VT	RPG MSCF BDDS	BTV	WN9617
FT DRUM	SOUTH BURLINGTON, VT	MSCF	BTV	WN9617
CARIBOU	CARIBOU, ME	RPG MSCF	CAR	WN9712

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
CHARLESTON, SC	CHARLESTON, SC	RPG MSCF BDDS	CHS	WN9208
CHARLESTON, WV	CHARLESTON, WV	RPG MSCF BDDS	RLX	WN9414
CINCINNATI	WILMINGTON, OH	RPG MSCF BDDS	ILN	WN9710
CLEVELAND	CLEVELAND, OH	RPG MSCF BDDS	CLE	WN9524
COLUMBIA	WEST COLUMBIA, SC	RPG MSCF BDDS	CAE	WN9310
GREER	GREER, SC	RPG MSCF BDDS	GSP	WN9312
MOREHEAD CITY	NEWPORT, NC	RPG MSCF BDDS	MHX	WN9307
NORFOLK	WAKEFIELD, VA	RPG MSCF BDDS	AKQ	WN9952
DOVER AFB	WAKEFIELD, VA	MSCF	AKQ	WN9952

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
PHILADELPHIA	MOUNT HOLLY, NJ	RPG MSCF BDDS	PHI	WN9950
PITTSBURGH	CORAOPOLIS, PA	RPG MSCF BDDS	PBZ	WN9917
PORTLAND, ME	GRAY, ME	RPG MSCF BDDS	GYX	WN9938
RALEIGH/DURHAM	RALEIGH, NC	RPG MSCF BDDS	RAH	WN9306
ROANOKE	BLACKSBURG, VA	RPG MSCF BDDS	RNK	WN9954
STATE COLLEGE	STATE COLLEGE, PA	RPG MSCF BDDS	CTP	WN9925
STERLING	STERLING, VA	RPG MSCF BDDS	LWX	WN9931
WILMINGTON	WILMINGTON, NC	RPG MSCF BDDS	ILM	WN9301

Southern Region

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
ALBUQUERQUE	ALBUQUERQUE, NM	RPG	ABQ	WP9365
		MSCF		
		BDDS		
CANNON AFB	ALBUQUERQUE, NM	MSCF	ABQ	WP9365
AMARILLO	AMARILLO, TX	RPG	AMA	WP9363
		MSCF		
		BDDS		
ATLANTA	PEACHTREE CITY, GA	RPG	FFC	WP9219
		MSCF		
		BDDS		
ROBINS AFB	PEACHTREE CITY, GA	MSCF	FFC	WP9219
AUSTIN/SAN ANTONIO	NEW BRAUNFELS, TX	RPG	EWX	WP9253
AUSTIN/SAN ANTONIO		MSCF	EWX	WP9253
		BDDS		
LAUGHLIN AFB	NEW BRAUNFELS, TX	MSCF	EWX	WP9253
BIRMINGHAM	ALABASTER, AL	RPG	BMX	WP9957
		MSCF	BMX	WP9957
		BDDS	BMX	WP9957
NORTHEAST ALABAMA	ALABASTER, AL	RPG	BMX	WP9957
		MSCF	BMX	WP9957
		BDDS	BMX	WP9957
MAXWELL AFB	ALABASTER, AL	MSCF	BMX	WP9957
BROWNSVILLE	BROWNSVILLE, TX	RPG	BRO	WP9250
		MSCF		
		BDDS		

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
CORPUS CHRISTI	CORPUS CHRISTI, TX	RPG MSCF BDDS	CRP	WP9251
DALLAS/FT WORTH	FORT WORTH, TX	RPG MSCF BDDS	FWD	WP9259
FT HOOD	FORT WORTH, TX	MSCF	FWD	WP9259
EL PASO	SANTA TERESA, NM	RPG MSCF	EPZ	WP9270
HOLLOMAN AFB	SANTA TERESA, NM	MSCF	EPZ	WP9270
EL PASO	SANTA TERESA, NM	BDDS	EPZ	WP9270
HOUSTON	DICKINSON, TX	RPG MSCF BDDS	HGX	WP9935
JACKSON/BRANDON, MS	JACKSON, MS	RPG MSCF BDDS	JAN	WP9235
COLUMBUS AFB	JACKSON, MS	MSCF	JAN	WP9235
COLUMBUS AFB	JACKSON, MS	RBDDS	JAN	WP9235
JACKSONVILLE	JACKSONVILLE, FL	RPG MSCF BDDS	JAX	WP9206
MOODY AFB	JACKSONVILLE, FL	MSCF	JAX	WP9206
KEY WEST	BOCA CHICA KEY, FL	RPG MSCF BDDS	BYX	WP9201

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
KNOXVILLE	MORRISTOWN, TN	RPG MSCF BDDS	MRX	WP9325
LAKE CHARLES	LAKE CHARLES, LA	RPG MSCF BDDS	LCH	WP9240
FT POLK	LAKE CHARLES, LA	MSCF	LCH	WP9240
LITTLE ROCK	NORTH LITTLE ROCK, AR	RPG MSCF BDDS	LZK	WP9340
LUBBOCK	LUBBOCK, TX	RPG MSCF BDDS	LUB	WP9933
MELBOURNE	MELBOURNE, FL	RPG MSCF BDDS	MLB	WP9204
MEMPHIS	MEMPHIS, TN	RPG MSCF BDDS	MEG	WP9334
MIAMI	MIAMI, FL	RPG MSCF BDDS	MFL	WP9918
MIDLAND/ODESSA	MIDLAND, TX	RPG MSCF BDDS	MAF	WP9265

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
MOBILE	MOBILE, AL	RPG	MOB	WP9223
		MSCF	MOB	WP9223
		BDDS	MOB	WP9223
EGLIN AFB	MOBILE, AL	MSCF		
NASHVILLE	OLD HICKORY, TN	RPG	OHX	WP9327
		MSCF		
		BDDS		
NORMAN	NORMAN, OK	RPG	OUN	WP9921
NORMAN	NORMAN, OK	MSCF	OUN	WP9921
NORMAN	NORMAN, OK	BDDS	OUN	WP9921
ALTUS AFB	NORMAN, OK	MSCF	OUN	WP9921
ALTUS AFB	NORMAN, OK	RBDDS	OUN	WP9921
VANCE AFB	NORMAN, OK	MSCF	OUN	WP9921
VANCE AFB	NORMAN, OK	RBDDS	OUN	WP9921
SAN ANGELO	SAN ANGELO, TX	RPG	SJT	WP9263
SAN ANGELO		MSCF		
DYESS AFB	SAN ANGELO, TX	MSCF	SJT	WP9263
SAN JUAN FAA	SAN JUAN, PR	BDDS	SJU	WP9526
		MSCF		
SHREVEPORT	SHREVEPORT, LA	RPG	SHV	WP9248
		MSCF		
		BDDS		
SLIDELL	SLIDELL, LA	RPG	LIX	WP9919
		MSCF		
		BDDS		

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
TALLAHASSEE	TALLAHASSEE, FL	RPG MSCF BDDS	TLH	WP9214
FT RUCKER	TALLAHASSEE, FL	MSCF	TLH	WP9214
TAMPA	RUSKIN, FL	RPG MSCF BDDS	TBW	WP9961
TULSA	TULSA, OK	RPG MSCF BDDS	TSA	WP9356
WESTERN ARKANSAS	TULSA, OK	RPG MSCF BDDS	TSA	WP9356
Central Region				
ABERDEEN	ABERDEEN, SD	RPG MSCF BDDS	ABR	WR9659
BISMARCK	BISMARCK, ND	RPG MSCF BDDS	BIS	WR9764
MINOT AFB	BISMARCK, ND	MSCF	BIS	WR9764
CHEYENNE	CHEYENNE, WY	RPG MSCF BDDS	CYS	WR9564

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
CHICAGO	ROMEOVILLE, IL	RPG MSCF BDDS	LOT	WR9969
DENVER	BOULDER, CO	RPG MSCF BDDS	BOU	WR9469
DES MOINES	JOHNSTON, IA	RPG MSCF BDDS	DMX	WR9546
DETROIT	WHITE LAKE, MI	RPG MSCF BDDS	DTX	WR9954
DODGE CITY	DODGE CITY, KS	RPG MSCF BDDS	DDC	WR9451
DULUTH	DULUTH, MN	RPG MSCF BDDS	DLH	WR9745
PADUCAH	PADUCAH, KY	RPG MSCF BDDS	PAH	WR9957
FT CAMPBELL	PADUCAH, KY	MSCF	PAH	WR9957
EVANSVILLE	PADUCAH, KY	RPG MSCF BDDS	PAH	WR9957

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
FARGO/GRAND FORKS	GRAND FORKS, ND	RPG MSCF BDDS	FGF	WR9750
GOODLAND	GOODLAND, KS	RPG MSCF BDDS	GLD	WR9465
GRAND ISLAND	HASTINGS, NE	RPG MSCF BDDS	GID	WR9552
GRAND JUNCTION	GRAND JUNCTION, CO	RPG MSCF BDDS	GJT	WR9476
GRAND RAPIDS	GRAND RAPIDS, MI	RPG MSCF BDDS	GRR	WR9635
GREEN BAY	GREEN BAY, WI	RPG MSCF BDDS	GRB	WR9645
INDIANAPOLIS	INDIANAPOLIS, IN	RPG MSCF BDDS	IND	WR9438
JACKSON, KY	JACKSON, KY	RPG MSCF BDDS	JKL	WR9956
LA CROSSE	LA CROSSE, WI	RPG MSCF BDDS	ARX	WR9643

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
LINCOLN	LINCOLN, IL	RPG MSCF BDDS	ILX	WR9436
LOUISVILLE	LOUISVILLE, KY	RPG MSCF BDDS	LMK	WR9423
MARQUETTE	NEGAUNEE, MI	RPG MSCF BDDS	MQT	WR9743
MILWAUKEE	DOUSMAN, WI	RPG MSCF BDDS	MKX	WR9965
MINNEAPOLIS	CHANHASSEN, MN	RPG MSCF BDDS	MPX	WR9658
NCL MICHIGAN	GAYLORD, MI	RPG MSCF BDDS	APX	WR9610
NORTH PLATTE	NORTH PLATTE, NE	RPG MSCF BDDS	LBF	WR9562
NORTHERN INDIANA	NORTH WEBSTER, IN	RPG MSCF BDDS	IWX	WR9534
OMAHA	VALLEY, NE	RPG MSCF BDDS	OAX	WR9553

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
PLEASANT HILL	PLEASANT HILL, MO	RPG MSCF BDDS	EAX	WR9446
PUEBLO	PUEBLO, CO	RPG MSCF BDDS	PUB	WR9464
QUAD CITIES	DAVENPORT, IA	RPG MSCF BDDS	DVN	WR9544
RAPID CITY	RAPID CITY, SD	RPG MSCF BDDS	UNR	WR9662
RIVERTON/LANDER	RIVERTON, WY	RPG MSCF BDDS	RIW	WR9576
SIOUX FALLS	SIOUX FALLS, SD	RPG MSCF BDDS	FSD	WR9651
SPRINGFIELD	SPRINGFIELD, MO	RPG MSCF BDDS	SGF	WR9440
ST LOUIS	WELDON SPRING, MO	RPG MSCF BDDS	LSX	WR9971
TOPEKA	TOPEKA, KS	RPG MSCF BDDS	TOP	WR9456

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
WICHITA	WICHITA, KS	RPG MSCF BDDS	ICT	WR9450
	Western Region			
BILLINGS	BILLINGS, MT	RPG MSCF BDDS	BYZ	WT9677
BOISE	BOISE, ID	RPG MSCF BDDS	BOI	WT9681
CEDAR CITY	SALT LAKE CITY, UT	RPG MSCF BDDS	SLC	WT9932
SALT LAKE CITY	SALT LAKE CITY, UT	RPG MSCF BDDS	SLC	WT9932
ELKO	ELKO, NV	RPG MSCF BDDS	LKN	WT9903
EUREKA (BUNKER HILL)	EUREKA, CA	RPG MSCF BDDS	EKA	WT9594
FLAGSTAFF	BELLEMONT, AZ	RPG MSCF BDDS	FGZ	WT9375

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
GLASGOW	GLASGOW, MT	RPG MSCF BDDS	GGW	WT9768
GREAT FALLS	GREAT FALLS, MT	RPG MSCF BDDS	TFX	WT9950
LAS VEGAS	LAS VEGAS, NV	RPG MSCF BDDS	VEF	WT9386
EDWARDS AFB	LAS VEGAS, NV	MSCF	VEF	WT9386
LOS ANGELES	OXNARD, CA	RPG MSCF BDDS	LOX	WT9295
MEDFORD	MEDFORD, OR	RPG MSCF BDDS	MFR	WT9597
MISSOULA	MISSOULA, MT	RPG MSCF BDDS	MSO	WT9773
PENDLETON	PENDLETON, OR	RPG MSCF BDDS	PDT	WT9688

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
PHOENIX	PHOENIX, AZ	RPG MSCF BDDS	PSR	WT9278
YUMA	PHOENIX, AZ	RPG MSCF BDDS	PSR	WT9278
POCATELLO	POCATELLO, ID	RPG MSCF BDDS	PIH	WT9578
PORTLAND, OR	PORTLAND, OR	RPG MSCF BDDS	PQR	WT9698
RENO	RENO, NV	RPG MSCF BDDS	REV	WT9488
SACRAMENTO	SACRAMENTO, CA	RPG MSCF BDDS	STO	WT9914
BEALE AFB	SACRAMENTO, CA	MSCF	STO	WT9914
SAN DIEGO	SAN DIEGO, CA	RPG MSCF BDDS	SGX	WT9918
SANTA ANA MTS	SAN DIEGO, CA	RPG MSCF BDDS	SGX	WT9918

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
SAN FRANCISCO	MONTEREY, CA	RPG MSCF BDDS	MTR	WT9933
SAN JOAQUIN VALY	HANFORD, CA	RPG MSCF BDDS	HNX	WT9389
SEATTLE	SEATTLE, WA	RPG MSCF BDDS	SEW	WT9922
SPOKANE	SPOKANE, WA	RPG MSCF BDDS	OTX	WT9785
TUCSON	TUCSON, AZ	RPG MSCF BDDS	TWC	WT9274
	Alaskan Region			
ANCHORAGE FAA	ANCHORAGE, AK	MSCF	AFC	WV9904
BETHEL FAA	ANCHORAGE, AK	MSCF	AFC	WV9904
KING SALMON FAA	ANCHORAGE, AK	MSCF	AFC	WV9904
MIDDLETON ISLAND	ANCHORAGE, AK	MSCF	AFC	WV9904
FAIRBANKS FAA	FAIRBANKS, AK	MSCF	AFG	WV9261
NOME FAA	FAIRBANKS, AK	MSCF	AFG	WV9261
SITKA FAA	JUNEAU, AK	MSCF	AJK	WV9381

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
	Pacific Region			
ANDERSEN AFB	AGANA, GU	MSCF	GUM	WW9902
KAMUELA/KOHALA APT	HONOLULU, HI	MSCF	HFO	WW9182
MOLOKAI FAA	HONOLULU, HI	MSCF	HFO	WW9182
SOUTH KAUAI	HONOLULU, HI	MSCF	HFO	WW9182
SOUTH SHORE FAA	HONOLULU, HI	MSCF	HFO	WW9182
	Miscellaneous			
NATL CLIMATIC DATA CTR (NCDC)	ASHEVILLE, NC	RPG	NCCN7	WN9312
NRC #1	KANSAS CITY, MO	RPG	NRCM7	WG9163
NRC #2	KANSAS CITY, MO	RPG	NRCM7	WG9163
NRC #1	KANSAS CITY, MO	MSCF BDDS	NRCM7	WG9163
NWSHQ TESTBED	SILVER SPRING, MD	RPG		WG9310
NWSHQ TESTBED	SILVER SPRING, MD	MSCF		WG9310
NWSHQ TESTBED	SILVER SPRING, MD	BDDS		WG9310
OSF-3 (RPG/KOHLER GEN)	NORMAN, OK	RPG	OSFO2	WG9410
ROC DOD RPG (KREX)	NORMAN, OK	RPG		WG9420
ROC FAA REDUNDANT (RPG 1)	NORMAN, OK	RPG RPG	CRIO2	WG9410

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
ROC FAA REDUNDANT (RPG 2)	NORMAN, OK	RPG RPG	CRIO2	WG9410
ROC3 NWS RPG	NORMAN, OK	RPG		WG9410
ROC4 NWS RPG	NORMAN, OK	RPG		WG9410
WDTB RPG	NORMAN, OK	RPG		
PRC RPG	RESTON, MD	RPG MSCF BDDS	PRCV2	WG9310
TRAINING CENTER #1 NWSTC	KANSAS CITY, MO	RPG MSCF BDDS	TTCM7	WB9612
TRAINING CENTER #2 NWSTC	KANSAS CITY, MO	RPG	TTCM7	WB9612

DoD

ALTUS AFB	FREDERICK, OK	RPG	FDR	FE4419
ANDERSEN AFB	ANDERSEN AFB, GU	RPG	UAM	FE5240
BEALE AFB	OROVILLE, CA	RPG	BBX	FE4686
CAMP HUMPHREYS	CAMP HUMPHREYS, KO	RPG RBDDS	PTK	FI5294
CAMP HUMPHREYS	YOKOTA AB, JA	MSCF		
KADENA AB	YOKOTA AB, JA	MSCF		
KUNSAN AB	YOKOTA AB, JA	MSCF		
CANNON AFB	FIELD, NM	RPG	FDX	FE4855

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
COLUMBUS AFB	GREENWOOD SPRINGS, MS	RPG	GWX	FE3022
DOVER AFB	ELLENDALE STATE FOREST, DE	RPG	DOX	FE4497
DYESS AFB	MORAN, TX	RPG	DYX	FE4661
EDWARDS AFB	BORON, CA	RPG	EYX	FE2805
EGLIN AFB	RED BAY, FL	RPG RBDDS	EVX	FE2823
FT CAMPBELL	TRENTON, KY	RPG	HPX	FY4812
FT DRUM	MONTAGUE, NY	RPG	TYX	FY4846
FT HOOD	GRANGER, TX	RPG	GRK	FY4824
FT POLK	FT POLK, LA	RPG	POE	FY4825
FT RUCKER	ECHO, AL	RPG	EOX	FY4805
HOLLOMAN AFB	RUIDOSO, NM	RPG RBDDS	HDX	FE4801
KADENA AB	KADENA AB, JA	RPG	KAD	FH5270
KEESLER AFB MNTC TRNG A	KEESLER AFB, MS	RPG	BIX	FE3010
KEESLER AFB MNTC TRNG B	KEESLER AFB, MS	RPG	BIX	FE3010
KEESLER AFB MNTC TRNG A	KEESLER AFB, MS	MSCF	BIX	FE3010
KEESLER AFB MNTC TRNG B	KEESLER AFB, MS	MSCF RBDDS	BIX	FE3010
KUNSAN AB	KUNSAN AB, KO	RPG RBDDS	KUZ	FH5284
LAJES AB	SANTA BARBARA, AZR	RPG MSCF	PLA	FE4486
LAUGHLIN AFB	BRACKETVILLE, TX	RPG	DFX	FE3099

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
MAXWELL AFB	CARRVILLE, AL	RPG	MXX	FE3300
MINOT AFB	DEERING, ND	RPG	MBX	FE4528
MOODY AFB	SOUTH STOCKTON, GA	RPG	VAX	FE4830
ROBINS AFB	JEFFERSONVILLE, GA	RPG	JGX	FE2067
VANCE AFB	CHEROKEE, OK	RPG	VNX	FE3029
VANDENBERG AFB	ORCUTT, CA	RPG MSCF BDDS	VBX	FE4610

FAA

ANCHORAGE FAA (RPG 1)	KENAI, AK	RPG	AHG	6901AJ
ANCHORAGE FAA (RPG 2)	KENAI, AK	RPG	AHG	6901AJ
BETHEL FAA (RPG 1)	BETHEL, AK	RPG	ABC	690112
BETHEL FAA (RPG 2)	BETHEL, AK	RPG	ABC	690112
FAIRBANKS FAA (RPG 1)	FAIRBANKS, AK	RPG	APD	690178
FAIRBANKS FAA (RPG 2)	FAIRBANKS, AK	RPG	APD	690178
KAMUELA/KOHALA APT(RPG 1)	KAMUELA, HI	RPG	HKM	699235
KAMUELA/KOHALA APT(RPG 2)	KAMUELA, HI	RPG	HKM	699235
KING SALMON FAA (RPG 1)	KING SALMON, AK	RPG	AKC	690137
KING SALMON FAA (RPG 2)	KING SALMON, AK	RPG	AKC	690137
MIDDLETON ISLAND (RPG 1)	MIDDLETON ISLAND, AK	RPG	AIH	690140
MIDDLETON ISLAND (RPG 2)	MIDDLETON ISLAND, AK	RPG	AIH	690140

ATTACHMENT 7 (Continued)

EFFECTIVITY

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
MOLOKAI FAA (RPG 1)	MOLOKAI, HI	RPG	HMO	699213
MOLOKAI FAA (RPG 2)	MOLOKAI, HI	RPG	HMO	699213
NOME FAA (RPG 1)	NOME, AK	RPG	AEC	690147
NOME FAA (RPG 2)	NOME, AK	RPG	AEC	690147
SAN JUAN FAA (RPG 1)	SAN JUAN, PR	RPG	JUA	69F362
SAN JUAN FAA (RPG 2)	SAN JUAN, PR	RPG	JUA	69F362
SITKA FAA (RPG 1)	BIORKA ISLAND, AK	RPG	ACG	690141
SITKA FAA (RPG 2)	BIORKA ISLAND, AK	RPG	ACG	690141
SOUTH KAUAI FAA (RPG 1)	SOUTH KAUAI, HI	RPG	HKI	699211
SOUTH KAUAI FAA (RPG 2)	SOUTH KAUAI, HI	RPG	HKI	699211
SOUTH SHORE FAA (RPG 1)	NAALEHU, HI	RPG	HWA	699201
SOUTH SHORE FAA (RPG 2)	NAALEHU, HI	RPG	HWA	699201

NWS: EHB-6, Software Note 21
DoD: TO 31P1-4-108-605
FAA: EEM Modification Handbook 6345.1 CHG 36, Chap 33

ATTACHMENT 8

RPG GROUP SOFTWARE BUILD 3.0 LOAD COMPLETION FORM

DoD and FAA only will complete this form
NWS: Report Completion in EMRS Only

Site Name: _____

Site Identifier: _____

Total Time to Complete this Modification Document: _____

Technician's Name(s): _____

Technician's Phone Number: _____

Date Completed: _____

Equipment Modified (SID) RPG _____ MSCF _____ (R)BDDS _____
ROUTER _____ FAA Only: RPG(2) _____

Problem(s) Encountered:

_____

_____

_____

_____

Upon completion of this form, return the information to the ROC using one of the four methods below:

1. Mailing Address: Program Branch, Configuration Management Team
   WSR-88D Radar Operations Center
   3200 Marshall Ave., Suite 101
   Norman, OK 73072-8028

2. FAX Number: (405) 366-6553
   ATTN: Configuration Management Team

3. E-mail Address: NEXRAD.CM.comments@noaa.gov

4. Web Version: http://www.roc.noaa.gov/ssb/logistics/completion.asp

ATTACHMENT 9

SAMPLE EMRS FORM